



 2019  **CSR**  
 YunTech   
National Yunlin University of Science & Technology

# REPORT



# Contents

About the Report	2	4-2 Students Employment Outcomes	94
Message from the President	4	4-3 Effectiveness of Life Education	98
Honors of YunTech	7	4-4 Environmental Sustainable Education Effectiveness	105
Yuntech Performance	9	4-5 Academic Research Results	110
<b>01 YunTech Vision and Strategy</b>	<b>12</b>	4-6 Industry-Academia Cooperation Results	114
1-1 History of YunTech	13	4-7 Chain Counseling System	117
1-2 Organizational Framework	15	<b>05 Environmental Protection Performance</b>	<b>129</b>
1-3 Blueprint for School Development	18	5-1 Response to Climate Change	132
1-4 Sustainable Core Concept, Vision and Strategy	21	5-2 Green Campus	140
1-5 Rewards	24	5-3 Energy Resource Management and Energy Saving Measures	144
<b>02 Organizational governance and stakeholder participation</b>	<b>31</b>	5-4 Campus Safety and Health	154
2-1 Governance Procedures	32	<b>06 Social Integration and Placemaking</b>	<b>161</b>
2-2 Risk Analysis and Internal Control System	37	6-1 Strategy and Goal of Social Integration	164
2-3 Communication of Stakeholders	42	6-2 Internal Social practice within the University	168
2-4 Academic and governance ethics	50	6-3 External Social practice outside the University	176
2-5 Information Security	53	6-4 Industrial Cooperation	195
2-6 Faculty Career Development and Training	58	6-5 International Communication	202
2-7 Benefits and Appeal of Faculty and Staff	71	6-6 Continuing Education	206
2-8 Sustainable and Social Responsibility Committee	74	<b>07 Supply Chain Management Performance</b>	<b>210</b>
<b>03 Financial Performance</b>	<b>78</b>	7-1 Sustainable Supply Chain Policy and Objectives	212
3-1 Financial Performance	80	7-2 Implementation Method and Effect	214
3-2 The Relationship Between Financial Performance and R & D Innovation	84	<b>08 Comparison with the Contents of GRI Standards Project</b>	<b>218</b>
<b>04 Education Performance</b>	<b>87</b>		
4-1 Innovative Teaching and Learning Effectiveness	90		

# About the Report

With the 'core' option of disclosure and the four principles of inclusivity, materiality, responsiveness and impact of the AA1000 Accountability Principles (2018), the second sustainable report of YunTech has been published based on the GRI guidelines to brief stakeholders about YunTech's performance in five areas: school administration, financial operations and human resources, environmental sustainability, social integration, and supply chain management. It also presents YunTech's vision and development strategy to address the stakeholders' concerns on sustainable issues.

## Scope and Period

The scope of this report is only limited within YunTech. Since Yuntech adopts the mechanism of academic year, the main period of disclosure in this report is the 107th academic year (1 August 2018 to 31 July 2019) and the annual information is presented for 2019 (1 January 2019 to 31 December 2019), therefore some information is disclosed for the period of 1-3 academic years or say 1-3 regular years. At the same time, this University has published the sustainable performance on the YunTech CSR website, covering specific practices and performance in the areas of 'governance', 'economy', 'environment' and 'society'.

## Download



National Yunlin University of Science &amp; Technology

Sustainability Report

## Contact Information

If you have any suggestions or questions, feel free to contact us through the following sources, thank you.



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## Report Issue Date

This is an annual report and will be ready at August every year.

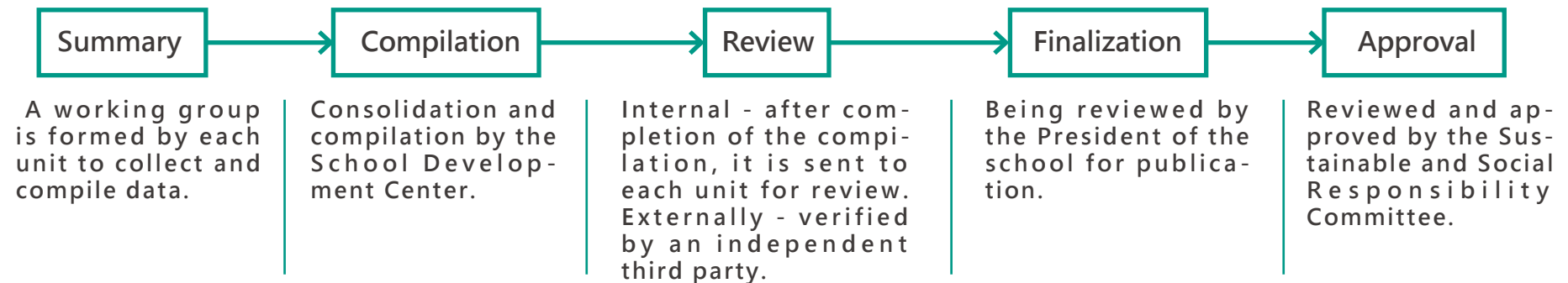
Issue date of this report: August 2020

Previous report issue date: August 2019

## Report Verification

This report was verified in July 2020 by the British Standards Institution (BSI) Taiwan, an independent third-party impartial entity, to be in compliance with the GRI Code Core Option Disclosure and AA1000 Assurance Standard: 2008 and its 2018 Appendix Type 1 Moderate Assurance Level, the assurance statement of which is attached to this report.

## Report Quality Management Process





## Messages from the President

### Foundation for-practical-purposes

Towards a vision of a world-class university of science and technology featured with being "innovative, industry-connected, internationally linked and sustainable."

The 17 SDGs are the shared goals towards the whole world and the responses towards economic, social and environmental development. By promoting and teaching the SDGs, this University will not only raise awareness of common issues, but also lead its staff to innovate in teaching and learning, solve social problems, link up with universities and like-minded sister schools around the world to raise its international status.

In 2018, Yuntech has been awarded a grant from the Ministry of Education's Higher Education Sprout Project to create a new education system that integrates industry issues, student learning, innovation and research - College of the Future + PBL Research Center. The aim is to provide a learning environment for students to develop on adaptivity and for-practical-purposes, with student learning as the center, nurture by nature as the goal, educational innovation as the strategy, and social and industrial fields. Regarding the social responsibility and shaping sustainable campus, this University has been ranked in the group of 101-200 in the world by Times Higher Education in the '2019 University Impact'. When it comes to 2020, two indicators have been jumped into top 100 in the '2020 University Impact' (SDG9: 79th, SDG6: 80th) and three indicators ranked within the top 200 globally (SDG8, SDG10, SDG12).



Yuntech has achieved outstanding performances in the areas of teaching quality, industry-academia collaboration, industrial services, international exchanges, social services, internationalisation, student employment and sustainable development. In addition to being awarded the Ministry of Education's School of Life Education for four consecutive years, this University has also been awarded the "Excellence in Energy-Saving Innovation Award" and "Gold Award for Energy Saving Benchmark" by the Bureau of Energy, Ministry of Economic Affairs. It was also awarded the 70th place in the world, the 18th place in Asia and the 2nd place in the Taiwan's national science and technology universities in the 2019 World Green University Awards for its excellent water recycling system. In addition to the above, YunTech has also fulfilled its university social responsibility by being sustainable and giving back to the community and won three major awards in the 2019 TCSA Taiwan Corporate Sustainability Awards: Top 50 Corporate Sustainability Overall Performance, Best Single Corporate Performance - Social Inclusion, and Corporate Sustainable Report (highest honor Platinum Award). Yuntech will continue to invest in education, research and development, industrial resources, and will continue to work on the four dimensions of teaching and learning, student development, university contribution, and international influence to build a sustainable campus, and actively expand this University's global influence on the 17 Sustainable Development Goals (SDGs) of the United Nations, in order to fulfill Yuntech's social responsibility.

In response to the international trend and sustainable development, YunTech is committed to teaching, R&D energy and sustainable development in the 2019-2023 Mid-Term Development Plan, creating a multiplier effect and a "for-practical-purposes university of science and technology paradigm" as the cornerstone towards the vision of a world-class university of science and technology with "innovative teaching, industry linkages, international links and sustainable development". Through strategic planning and the search for original solutions, YunTech encourages faculty members to strive for excellence in teaching and research, as well as industry-academia collaboration. In the 2018 Ministry of Education Tertiary Information Disclosure System, YunTech ranked 2nd in the country for university-industry collaboration (over \$1.5 million per teacher in 2019, an increase of nearly 50%). In view of this, YunTech has established the Centre for Sustainable Development and Social Practice in 2019 to expand this university's influ

ence on the 17 Sustainable Development Goals (SDGs) of the United Nations, and to implement the core concept of sustainable development under the College of the Future. Under the College of the Future, Yuntech is also implementing the core concept of sustainable development, focusing on the problem of an ageing society.

In addition to implementing the spirit of sustainable development, this University also fulfils its social responsibility. Yuntech has been engaged in place making for nearly 30 years, and has not only a USR team on campus, but also a community of USR teachers. As a result, in the 2020 USR University Citizenship Survey, the School of Design was awarded 2nd place among public technical colleges in four categories: university governance, social engagement, teaching commitment, and environmental sustainability; and in 2020, the School of Design students won the Vision Get Wild (VGW) Award from the Industrial Development Bureau of the Ministry of Economic Affairs, winning two gold, one silver and one bronze medal for their work on sustainable development (SDG1, SDG3, SDG4, SDG10, SDG11). This University also won the "School of the Year Award". This shows that YunTech has been working hard on sustainable development and has achieved significant results.

Yuntech also promotes the United Nations' concept of sustainable development (SDGs) and promotes University Social Responsibility (USR) through education, effectively playing the role of not only nurturing students, but also providing local and international support and enhancing global sustainable development, realising Yuntech's impact on global sustainable development. In the future, Yuntech will uphold the economic, social and environmental dimensions of sustainable development, and will take on all its social responsibility in sustainable development, promoting social, economic and environmentally sustainable development globally, and continuing to expand Yuntech's international and social influence in the world, in order to fulfil its responsibilities.

YunTech President

楊能舒

# Honors of YunTech

## Governance

- ★ 2019 University Impact Rankings The overall performance ranks 101-200 in the world.
- ★ 2019 UI Greenmetric World University Rankings ranks 70th in the world National University of Science and Technology wins the second place.
- ★ 2019 Taiwan Corporate Sustainability Awards wins three major prizes
  - < Corporate Comprehensive Performance Award > -Taiwan TOP50 Corporate Sustainability Award
  - < the Best Practice Awards of Social Integration >
  - < Corporate Sustainability Reporting Award > -The Platinum Award
- Wins the 16th place in 2019 Taiwan University Rankings in comprehensive universities released by Global Views Monthly
- ★ Ranks second in 2020 USR University Citizen Survey in technical and vocational institutions released by Common Wealth Magazine
- ★ Finishes in the top eight of the Awards Asia 2020 in Teaching and Learning Strategy
- ★ Wins 2019 Germany Red Dot Design Award, ranking 10th in Asia-Pacific universities of design
- ★ Wins the 5th place in 2020 Corporate Favorite University in public universities of science and technology released by 1111 Job Bank
- ★ Ranks second in medium and large emerging universities with the greatest potential in the minds of enterprises

## Economy

- ★ Wins two golds, two silvers and a Special award at International Warsaw Invention Show (IWIS)
  - < The Push-rod Wheelchair, a Modular dual power input device > , wins a gold medal.
- ★ Wins three golds, two silvers, a copper and a Special award at Macao International Innovation and Invention Expo
  - < The Modular Dual Input Auxiliary Bicycle Booster > , wins a gold medal.
  - < The Bus Station Design > , wins a gold medal.
  - < The AR(augmented reality) eyesight examination > , wins a gold medal.
- ★ Wins OPTP Product Design Award
  - < the Tea Moment in A Garden >
- ★ Incubator Center wins Award for Excellent Creative And Educational Institutions in two consecutive years.
- ★ Wins two golds at Hong Kong International Invention and Design Competition
  - < AR Smart Glasses for Vision Care >
  - < Automatic Product Replenishment And Removal System >
- ★ Achieves an excellent performance at Seoul International Invention Fair, winning two golds, two silvers and four coppers.
- ★ Wins 2019 IF Design Talent Award
  - < Vital Book >
- ★ < CHEERS > sound snap device seizes the gold medal at International Salon of Inventions and New Technologies New Time.
- ★ Wins four golds, a silver and two coppers at Taiwan Innotech Expo
- ★ Seizes a gold medal at Construction Design Competition
  - < Removable >
- ★ Wins four golds, two silvers and a Special Award at Tokyo Invention Exhibition
- ★ Makes accomplishments at Malaysia International Invention, Innovation and Technology Exhibition (ITEX), wining a silver award and two coppers
- ★ Wins two golds, two silvers and two Special Awards at Moscow International Salon of Inventions and Innovation Technologies "Archimedes"
- ★ Wins a gold medal and a Special Award at Moscow International Salon of Inventions and Innovation Technologies "Archimedes"
  - < Foot-Fitting System >
- ★ The product < KA-TSloNG > has won 2020 Young Pin Design Award in Crafts Design.

## Environment

- ★ Wins 2019 Red Dot Design Concept Award < Housefall >
- ★ Snatches a gold, two silvers, a copper and a Special Award at Geneva International Invention Exhibition
- ★ Department of Industrial Engineering and Management is honored with the first prize at Smart City Innovative Application Competition in the National Yunlin University of Science and Technology (Yuntech).
- ★ Department of Industrial Engineering and Management wins the third prize at Supergis Application Creative Competition.
- ★ Wins 2019 Green Chemistry Individual Award of Chemistry Bureau of Environmental Protection Office in Administration Department.
- ★ Wins the 10th Green Building Honorable Mention for schools granted by ministry of the interior
- ★ Snares two golds, a silver and a copper at Exhibition of Vision Get Wild hold by Bureau of Industry, Ministry of Economy and wins School of the Year Award
- ★ The product < Loofiber > wins 2020 Young Pin Design Special Award in Circular Design.

## Society

- ★ Wins Croatian One Minute Film Festival Award. < Diary >
- ★ Participates in USR assistance programs of Ministry of Education.
  - Qianshan Rural Area Revitalization and Cultural Confidence Building Program applies for a subsidy of NT\$3.5 million.
  - The Social Practice Program of Chicken-raising Industry at Yunlin County: The Shaping And Sustainable Operation of Supply Chain Traceability applies for a subsidy of NT\$4.5 million.
- ★ < Guest Hey Port > wins the Italian A'Design Silver Award in 2020 and < Years Know Taste > snatches the bronze prize of 2020 Italian A'Design Award.



## Performance

### Economy







- ☆ Revenues: NT\$ **26.6** billion
- ☆ Income of government subsidies : NT\$ **12.6** billion
- ☆ Student employment rate: **95.2%**
- ☆ Average salary of graduates: NT\$ **42** thousand
- ☆ Industry-Government-Academia Collaboration results
  - Number: **932**
  - Amount: NT\$ **12.2** billion
- ☆ The establishment of Office of Industry-Academia Collaboration
- ☆ Local supplier ratio: **99.57%**
- ☆ Local supplier procurement spending ratio: **99.99%**

### Environment

- ☆ The first campus possessing a sewage treatment plant in Taiwan
- ☆ No violation against environmental laws and regulations
- ☆ Electricity saving ratio: **3.72%**
- ☆ Total energy consumption: **64,476.49GJ**
- ☆ Sewage recovery rate: **50.63%**
- ☆ Tap water recovery rate: **33.6%**
- ☆ Green area: **79%** of the campus area
- ☆ Four green buildings
- ☆ The EUI has been surpassed the average of that of government for 11 consecutive years.
- ☆ The amount/ratio of preferential procurement:  
NT\$ **3.12** million / **9.82%**
- ☆ The amount/ratio of green procurement:  
NT\$ **46.56** million / **99.44%**



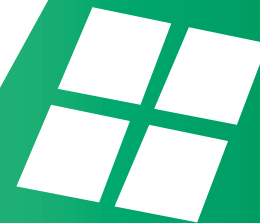
## Society

- ☆ The number of the faculty: **744** (full time teachers + the staff) 
- ☆ The number of students: **9,716** 
- ☆ The number of academic papers published: **576** 
- ☆ **100%** of project assistants have ethics certification.
- ☆ NT\$ **9.26** million have been invested to implement social integration and place making. 
- ☆ The number of Taiwan USR practice bases at which we have worked: **48**
- ☆ The number of awards at home and abroad won by students: **82**
- ☆ No corruption
- ☆ No grievance from staff
- ☆ No information protection or threat attack incidents
- ☆ The percentage of new suppliers selected according to social standards: **100%**
- ☆ Aid measures for students
- ☆ The total number of beneficiaries is **4,119** 
- ☆ The amount of grants is NT\$ **57.59** million 

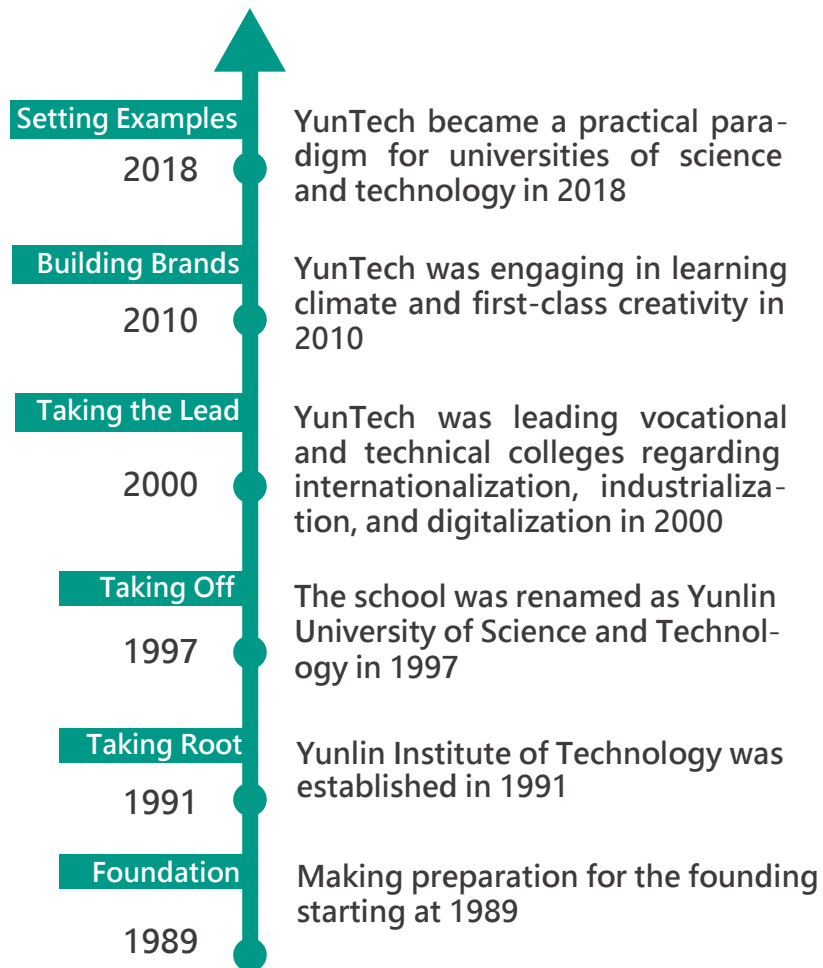




01  
YunTech  
Vision and Strategy







## 1-1 History of YunTech

Established in 1991, YunTech was originally known as National Yunlin Institute of Technology. Following the educational goal that “technological college shall cultivate high-level engineering and management talents for higher vocational colleges and junior colleges”, the National Yunlin Technological College was founded. Later, due to the outstanding performance, it was approved by the Ministry of Education to change its name as YunTech.

Under the leadership of past presidents, and of current president, Dr. Neng-Shu Yang, after 30 years, YunTech was known internationally as a university that values the integration of industry and academia, and one that continuously cultivate talents that produce innovative designs. In recent years, YunTech has successfully promoted mutually beneficial cooperation between the industry and the academia and created a campus that cultivates industrial talents in mid-Taiwan.

Over the past decade, with the assistance of “Development of Paradigm University of Science and Technology Program” and “Award of Teaching Excellence for University and Colleges of Science and Technology” by the Ministry of Education, YunTech has transformed its brand concept into teaching. With the advantages of Industry-Academia cooperation and innovative teaching to build a university of science and technology with “industry university integration and innovative design” for practical purposes. In 2019, we continued to receive subsidies from “Higher Education Sprout Project” of the Ministry of Education to further build a dual learning system and environment for students’ development on adaptability for practical purposes. Moreover, YunTech has developed a problem-based learning (PBL) system for industry-academia cooperation, so as to achieve the goal of cultivating talents who will be employed upon graduation.

## YunTech's Big Events in History

Year	Big Events in History
1989	<ul style="list-style-type: none"> <li>Established the Preparatory Office of National Yunlin Institute of Technology and the opening ceremony of campus.</li> </ul>
1991	<ul style="list-style-type: none"> <li>National Yunlin Institute of Technology was officially built up guided by the founding president Dr. Wen-shiung Chang.</li> </ul>
1997	<ul style="list-style-type: none"> <li>Renamed as YunTech</li> <li>Set up the College of Engineering, College of Management, College of Design, College of Humanity and Applied Sciences.</li> </ul>
2001	<ul style="list-style-type: none"> <li>The founding president Dr. Wen-Shion Chang was taken over by Dr. Cong-ming Lin.</li> </ul>
2006	<ul style="list-style-type: none"> <li>Organized the 2006 National Intercollegiate Athletic Games.</li> <li>The New Third Building of Design won the Golden Award in the 7th Public Works</li> </ul>
2009	<ul style="list-style-type: none"> <li>The second president Dr. Cong-ming Lin was taken over by Dr. Yong-bin Yang.</li> </ul>
2013	<ul style="list-style-type: none"> <li>The third president Dr. Yong-bin Yang was taken over by Dr. Chun-kan Hou.</li> <li>The Industrial District of Yunlin County signed the strategic alliance with YunTech.</li> <li>Signed MOU to form strategic alliance with paradigm universities of science and technology in middle Taiwan</li> </ul>
2014	<ul style="list-style-type: none"> <li>Set up the Sustainable, Green, Intelligent, and Innovative Center.</li> <li>The College of Management won the AACSB (the Association to Advance Collegiate Schools of Business) Accreditation.</li> </ul>
2015	<ul style="list-style-type: none"> <li>The College of Management won the ACCSB (Accreditation of Chinese Collegiate School of Business) Accreditation.</li> </ul>

Year	Big Events in History
	<ul style="list-style-type: none"> <li>Started the construction of DreamHub of YunTech.</li> <li>Signed to form the world federation of Taiwan businessmen and technical colleges for internship and employment guidance with World Taiwanese Chambers of Commerce.</li> </ul>
2016	<ul style="list-style-type: none"> <li>Signed the Memorandum of Understanding for Business Cooperation with Chinese Youth Group.</li> <li>Hosted the opening ceremony of YunTech Creative Factory on the Maker' s Base approved by Ministry of Education in middle Taiwan.</li> </ul>
2017	<ul style="list-style-type: none"> <li>The fourth president Dr. Chun-kan Hou was taken over by Dr. Neng-shu Yang.</li> <li>Signed the Memorandum of Understanding with Thai Nguyen University of Agriculture and Forestry.</li> </ul>
2018	<ul style="list-style-type: none"> <li>Established College of Future.</li> <li>Signed the Memorandum of Understanding for strategic alliance with Hsinchu Commercial &amp; Vocational High School.</li> <li>Signed the Memorandum of Understanding for academic cooperation with India Education Society.</li> <li>Signed the Co-cultivation of wind power talents with RCG out of Taiwan.</li> <li>Coped with National Chia-Yi Industrial Vocational High School to cultivate high-tech talents.</li> <li>Coped with National Huwei Agricultural and Industrial Vocational Senior High School and National Siluo Agricultural and Industrial High School to cultivate industrial talents.</li> <li>The College of Engineering was granted IEET accreditation.</li> </ul>
2019	<ul style="list-style-type: none"> <li>20th Anniversary of Incubation Center.</li> <li>Initiate the construction of Teaching Building.</li> <li>Released the English journal of YunTech (<a href="https://jit.yuntech.edu.tw/index.php/jit">https://jit.yuntech.edu.tw/index.php/jit</a>)</li> </ul>

## 1-2 Organizational Framework

School Name	National Yunlin University of Science and Technology
Address	University Road, Section 3, Douliou, Yunlin 64002, Taiwan
President	Professor Neng-shu Yang
URL	<a href="https://www.yuntech.edu.tw/">https://www.yuntech.edu.tw/</a>
CSR URL	<a href="http://www.yuntech-csr.tw/">http://www.yuntech-csr.tw/</a>
The Number of fulltime faculty members	420 (Including foreign faculty teachers)
The Number of part-time faculty members	218
The Number of foreign faculty members	11
The Number of staffs	324
The Number of students	9,716
The Number of colleges	5
The Number of departments	23 (Including 4-degree curricula)
The number of Institutes	26 master's and 13 doctoral programs
Total operation revenue in 2019	NTD 2,626,453,485
Total operation expenditure in 2019	NTD 2,738,233,343
Surplus and deficiency in 2019	A shortage of NTD 111,779,858
Cash and equivalents cash in 2019	NTD 1,109,119,628

YunTech is a higher education institution which belongs to the higher technological and vocational Education of the Ministry of Education without the board of directors. Its stakeholders are defined as the students, parents, faculty, suppliers, members of communities, government organizations, alumni, enterprises and non-governmental organizations (NGO). It consists of one President and three vice-presidents. The president is responsible for the comprehensive management and development of school affairs and represents the school externally. The vice presidents assist the president

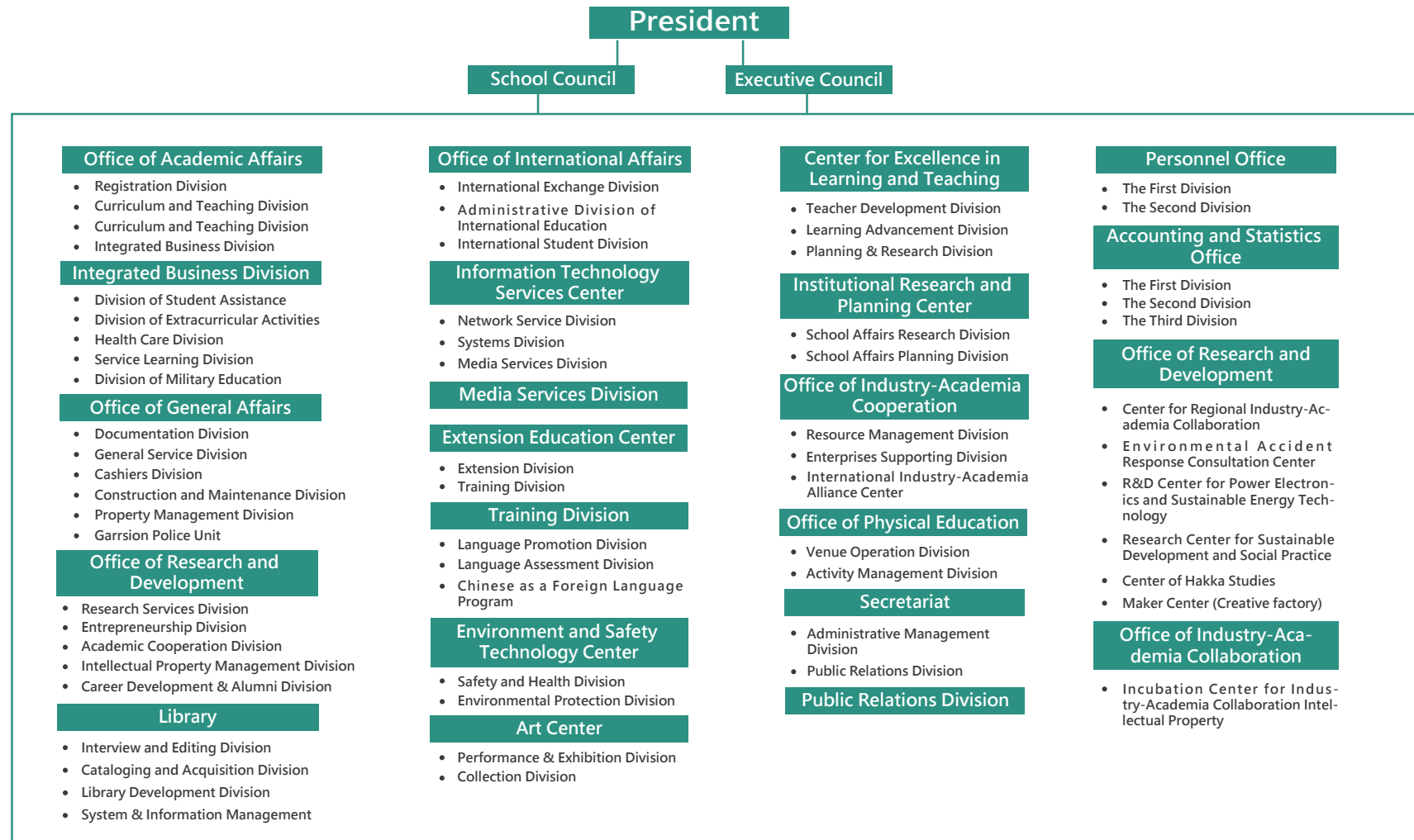
in school affairs. During the reporting period, there is no significant change in the organization and its supply chain.

The administrative units of YunTech include the Office of Academic Affairs, Office of Student Affairs, Office of General Affairs, Office of Research and Development, Office of International Affairs, and other 20 first-level administrative units. The academic units have five colleges, 23 bachelor's programs, 26 master's programs, 14 master's in-service programs, 13 doctoral programs, and 10 institute-level centers. The five colleges are the College of Engineering, College of Management, College of Design, College of Humanity and Applied Sciences, and the College of Future. The president and the head of the Department are respectively the first and second-level administrators of the academic units managing the affairs and the Department.

The vice presidents assist the president in school affairs. During the reporting period, there is no significant change in the organization and its supply chain.

In 2018, the General Research Center for Industry-Academia Collaboration was established. Later in 2019, it was renamed as the Office of Industry-Academia Cooperation. Combining core technologies and professional talents of YunTech, the Office has developed various PBL (problem-based learning) research centers for practical purposes with characteristic functions. Based on industrial-academia research energy grading, family program operation, new-type talent cultivation, and innovation and entrepreneurship, the YunTech PBL Research Center was formed.





## President

### School Council

### Executive Council

#### College of Engineering

- Institute of Engineering Science and Technology (a doctoral program divided into Science and Technology Division and Practical Industry Division)
- Department of Mechanical Engineering (master's and doctoral program)
- Department of Electrical Engineering (master's program)
- Department of Electronic Engineering (master's and doctoral program)
- Department of Information Engineering (master's program)
- Department of Environment and Safety and Health Engineering (master's and doctoral program, and on-the-job master's program for environmental safety technology and management)
- Department of Chemical and Materials Engineering (master's and doctoral program)
- Department of Construction Engineering (master's program)
- Research Center for Industrial Pollution Prevention and Control
- Resources and Natural Disaster Prevention Technology
- Intellectualization and Monitoring Research Center
- Precision Instrument Center
- Construction Technical Services and Materials Testing Center

#### College of Management

- Department of Industrial Engineering and Management (master's and doctoral program, and on-the-job master's program of Industrial Engineering & Management and Health Industry Management)
- Department of Business Administration (master's and doctoral program, the master's program consists of Business Administration Division, International Business Administration Division and Entrepreneurship Administration Division)
- Department of Information Management (master's and doctoral program)
- Accounting Department (master's and doctoral program)
- Master's Program of Advanced Management (on-the-job master's program)
- Bachelor's Degree Program of Business Administration (No.4 Technical Extension Education Department)
- Department of Finance (master's and doctoral program)
- Bachelor's Degree Program of Industrial Management
- Bachelor's Degree Program of International Management
- Intelligent Business Center

#### College of Design

- Institute of Design (master's and doctoral program)
- Department of Visual Communication Design (master's program)
- Department of Creative Design (master's program)
- Department of Architecture and Interior Design (Architecture Division and Interior Division, master's program)
- Department of Industrial Design (master's program)
- Department of Creative Design (master's program)
- Design Research Center

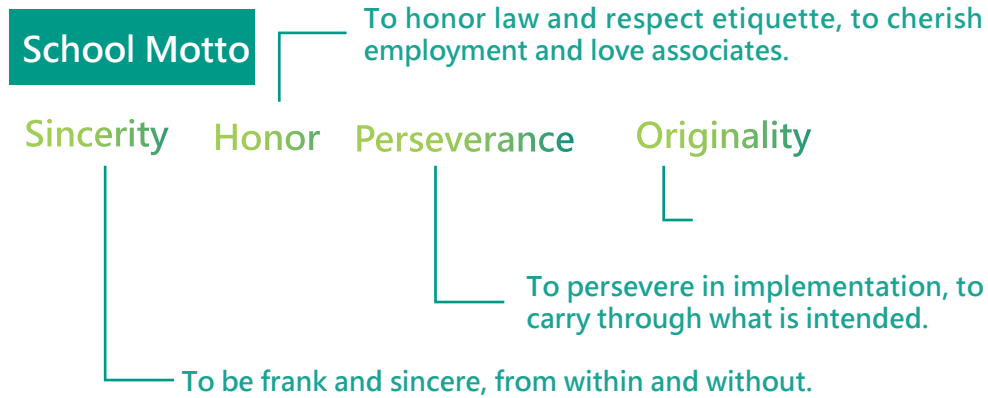
#### College of Humanities and Applied Sciences

- Institute of Technical and Vocational Education (master's and doctoral program)
- Institute of Leisure and Sports (master's program)
- Institute of Materials Science and Technology (master's program)
- Department of Applied Foreign Languages (master's program)
- Institute of Applied Sinology (master's program)
- Institute of Science and Technology Law (master's program)
- Department of Cultural Assets Maintenance (master's program)
- Teacher Training Center

#### College of Future

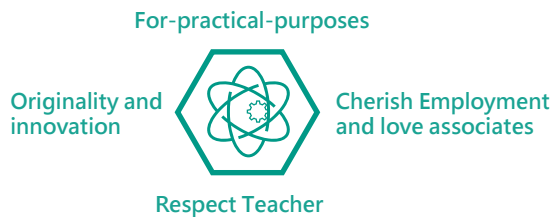
- Prospect Bachelor's Degree Program
- Bachelor's Degree Program of Intelligent Robotics
- Bachelor's Degree Program of Industrial Projects
- Bachelor's Degree Program of Industrial Technology
- Future Technological Research Center
- General Education Center

## 1-3 Blueprint for School Development



The educational idea of YunTech is to lay equal emphasis on theory and practice, as well as on humanities and science. Based on the school motto of "Sincerity, Honor, Perseverance and Originality."

## Values



After more than 20 years of operation, staffs have gradually shaped unique organizational culture values, and they continue to pursue four values: to be practical (Sincerity), to cherish employment and love associates (Honor), to carry through what is intended (Perseverance), to be creative (Originality). Based on these values and four core goals, YunTech has been pursuing the following

four goals: 1) to beautify campus environment and cultivate talents with humanistic care; 2) to take design innovation as the main axis to improve the competitiveness of domestic industry; 3) to transform from holistic education to overall education, from vocational and technical excellence to overall excellence; 4) to actively participate in international activities, shaping YunTech as a world-class brand. YunTech hopes to become a practical model of combing industry-academia cooperation with innovation, setting a paradigm with sharing for universities of science and technology.

YunTech takes a practical paradigm for universities of science and technology for practical purposes as its medium-term plan for school development 2019-2023, hoping to have an outstanding performance in four aspects: student cultivation, teacher development, university contribution, and international influence.

In order to achieve the vision, YunTech aims to cultivate skilled personnel with humanity, to expand the capacity for application-oriented research, exert local, industrial, social, and global influence, and shape an innovative, diversified, friendly and sustainable campus culture. Its strategy is to build a suitable educational environment for talents to nurture by nature, to build a mechanism for connecting R & D results with new industries, to use education and R & D resources to solve local, industrial, social, and global problems, and to continue organizational innovation and change.

## YunTech expects to achieve the following four goals:



### For school management

Make the higher education more accessible and establish YunTech as a paradigm for vocational education by gradually changing the nature of school.

### For student's learning

To implement innovation and improve teaching quality, giving full play to student's potential.

### For industry

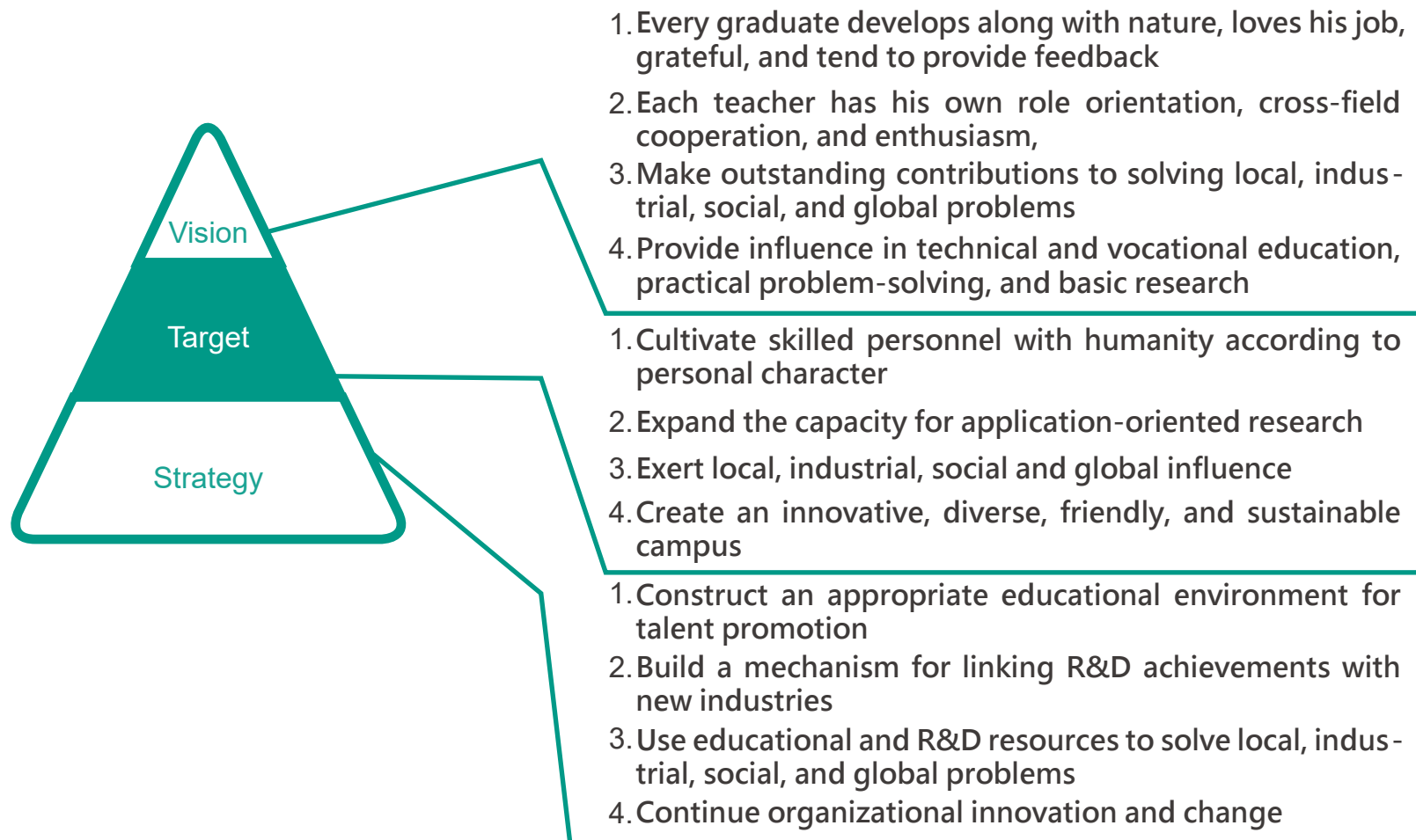
To develop the characteristics of school, redefine and digging the hidden work.

### For social environment

To fulfill social responsibility and beautify campus environment by solving social issues.

In order to achieve the vision, YunTech aims to cultivate skilled personnel with humanity, to expand the capacity for application-oriented research, exert local, industrial, social, and global influence, and shape an innovative, diversified, friendly and sustainable campus culture. Its strategy is to build a suitable educational environment for talents to nurture by nature, to build a mechanism for connecting R & D results with new industries, to use education and R & D resources to solve local, industrial, social, and global problems, and to continue organizational innovation and change.

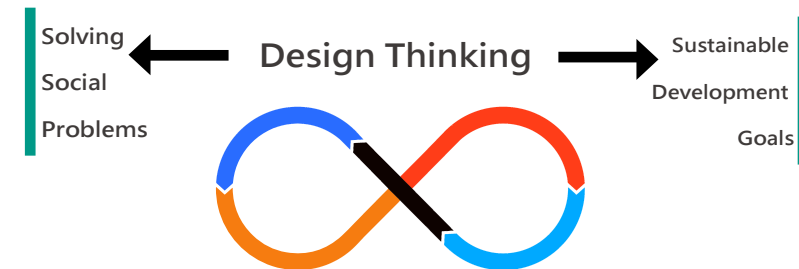
## A practical model for universities of science and technology



## 1-4 Sustainable core concept, vision and strategy

The vision of YunTech is to promote sustainable economy, society and environment by the power of education and knowledge. In terms of sustainable strategies and actions, we integrate the sustainable purpose into the vision, goals and strategies of the university. We put it into practice in teaching innovation, academic research, industry-academia cooperation, and internationalization.

**YunTech embraces the sustainable spirit in teaching innovation (Intelligence).** In addition to formal environmental science education and business ethics education, YunTech integrates community, industrial and social problems into students' theoretical and practical projects. For example, university-level compulsory courses for general education integrate with the design thinking concept of Stanford University to solve social problems and make progress towards sustainable development goals; In view of the economic weakness, the Ministry of Education designated our university to set up a special class for bachelor's degree to eliminate the starting point behavior of economy, poverty and inequality, so that every student can receive a homogeneous education. There are other examples, such as the small-store marketing service of the College of Management; the tribal cultural preservation and marketing activities of the College of Design; the international marketing activities of local industry, preservation of traditional culture and marketing activities of College of Humanities and Applied Sciences; and the placemaking activities of College of Future. These activities are combined with the final project of the course, from which students can learn about local, social and environmental issues. Above all, students can prove their ability to promote sustainable economy, society and environment.



**YunTech thoroughly integrates the sustainable spirit into academic research (Technicality).** According to THE University Impact Rankings, our university has three indicators exceeding the global average: SDG8( FWCI 1.18 ), SDG9( FWCI 1.14 ), SDG12( FWCI 1.21 ), which shows that our university has global academic influence in three indicators: work and economic growth, industry, innovation and infrastructure, and sustainable consumption and production mode. What's more, teachers and students of Management College of our university conducted research on organizational administration, business ethics, corporate social responsibility, sustainable production, sustainable supply chain, education for the aged and employment. Teachers and students of College of Engineering conducted the research on climate change and sustainable energy. Teachers and students of College of Humanities and Social Sciences conducted the research on sustainable recreation and sustainable community tourism. And teachers and students of College of Design and conducted the research on sustainable product design and sustainable consumption behavior. In addition, the school continues to promote sustainable development research. The university has planned to employ international Yushan (Young) Scholars to serve in the



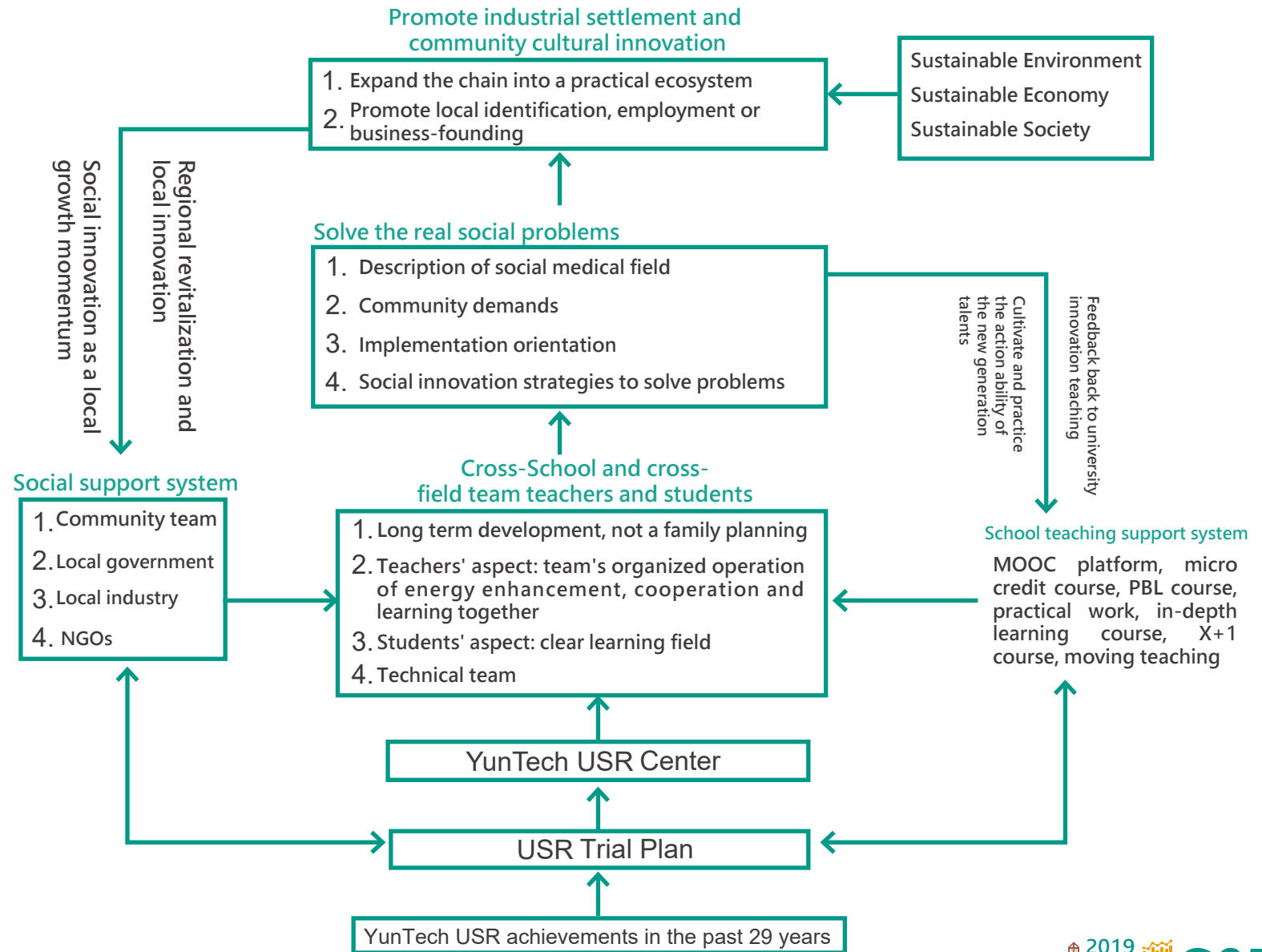
university (from August 2020, they will successively serve in the University in the fields of AI, capital engineering, etc.). In this regard, YunTech has continued to cultivate sustainable spirit and striding towards sustainable development of global influence.

**YunTech embraces the sustainable spirit in industry-academia cooperation (Industry-Academia).** First, YunTech sets up many research centers related to sustainability, such as Power Electronics and Sustainable Energy Technology R & D Center, Research Center for Sustainable Development and Green Technology, Research Center for Soil and Water Resources and Disaster Prevention Technology, Industrial Pollution Control Research Center, Environmental Accident Response Consulting Center, and Research Center for Sustainable Development and Social Practice. These research centers practice YunTech's vision and strategy of promoting environmental and social sustainable development with knowledge. Second, YunTech's industry-academia cooperation aims at creating new businesses and assisting small and medium-sized enterprises. The performance of the innovation and development center of YunTech is excellent, and many new companies are cultivated. The school's teachers use their innovative technology to set up derivative enterprises. All these are in practice of YunTech's vision and strategy of promoting sustainable economy with the power of knowledge.

**YunTech embraces the sustainable spirit in international reputation (internationalization).** First, it intends to implement the UN Sustainable Development SDGS indicators in many aspects and achieves good results. For example, in the

Impact Rankings 2019, it was ranked 101-200 globally; ranked the 70th in the Greenmetric World University Ranking 2019; ranked 201-250 in THE Emerging Economies University Rankings 2020; ranked the 2nd in the USR University Citizenship Competition 2020 of Commonwealth Magazine. In addition, YunTech continues to make progress in the SDG4 education indicators by carrying out international sister school exchanges and plan exchanges, such as: teachers and students went to Spain and the United Kingdom to practice the social practice experiment of gift economy. Through the transmission of seed tokens, a social experiment system of gift economy is created to drive the circulation of goodwill.

Last but not least, YunTech develops the sustainable development in four aspects: teaching, research, industry-academia cooperation, internationalization. Besides, from the community construction in 14 townships, 5 towns and 1 city of Yunlin County in the past to the establishment of Research Center for Sustainable Development and Social Practice, YunTech has always followed the USR operation framework. Based on the real community problems as well as the dual support of the school teaching support system and social support system, YunTech gathers the strength of cross-school and cross-field teams, teachers and students. What YunTech aims is to promote various actions that can promote industrial settlements and cultural innovation in the community with the goal of environmental sustainability, economic sustainability and social sustainability. In short, YunTech hopes to promote regional revitalization with social innovation as a local growth driver, and then feeds back the implementation results of the plan to the university innovation teaching.



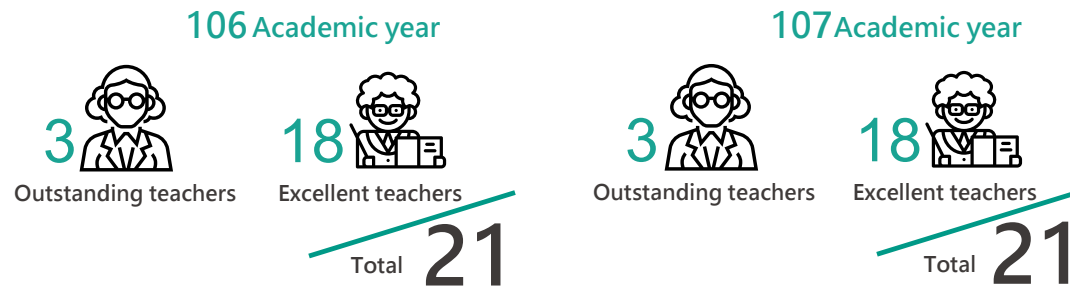
## 1-5 Rewards

### The Teachers' Rewards

#### Outstanding and excellent teachers

To encourage excellent teachers and recognize their efforts and contributions in teaching. Its aim is to pursue advanced and good teaching quality, keep pace with The Times teaching mode, cultivate talents of higher education, and build the great cause of a hundred years.

#### Number of outstanding and excellent teachers in 106-107 academic year



### Yunduo Award

In order to encourage our teachers not only to teach knowledge, but also to cultivate students' personality, care and guidance in life, morality and other aspects, and to affirm teachers' efforts and contributions, Yunduo Award was established to select excellent teachers. The number of Yunduo Awards is 4-6, with at least one in each college as the principle. All full-time teachers who have served in the school continuously for more than 2 years until the end of the academic year can be candidates for Yunduo Award. In the 107 academic year, a total of 6 teachers won the Yunduo Award.



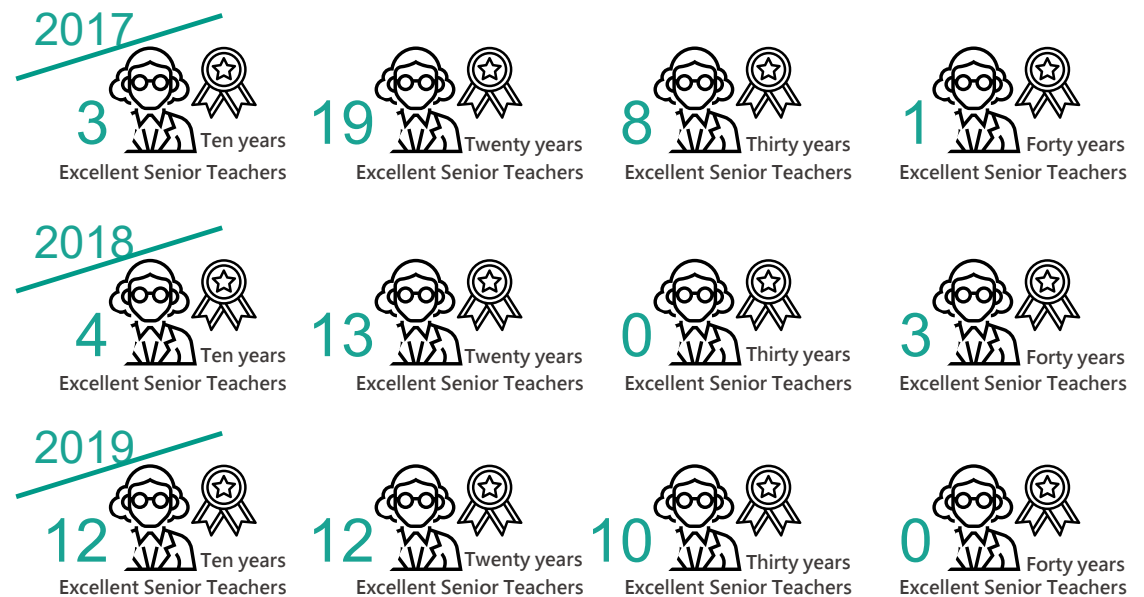
## Planning and handling mechanism of selection system for excellent service teachers

In order to encourage teachers with outstanding performance who are concurrently engaged in administrative work of their departments or administrative units, the number of excellent service teachers shall be 2 for each academic year. The list of excellent service teachers shall be submitted by each school and a selection committee shall be formed for review, with the dean as the convenor. In addition, excellent teachers will be recommended to the personnel office and submitted to the school selection committee for consideration. The winning teachers will be publicly praised by the principal in the school assembly and awarded with a medal and a bonus of NTD 20,000.

## Planning and handling mechanism of reward system for excellent senior teachers

In order to encourage teachers to engage in teaching work for a long time and devote themselves to education, the personnel office shall make a record every year and send a letter to all departments for examination. After being signed and approved, it shall be submitted to the Ministry of education to apply for awards for ten, twenty, thirty and forty years. The award-winning teachers are publicly praised and awarded medals at school gatherings. The Ministry of education also holds a commendation meeting on Teachers' day every year to praise and award awards to outstanding senior teachers who have served for 40 years.

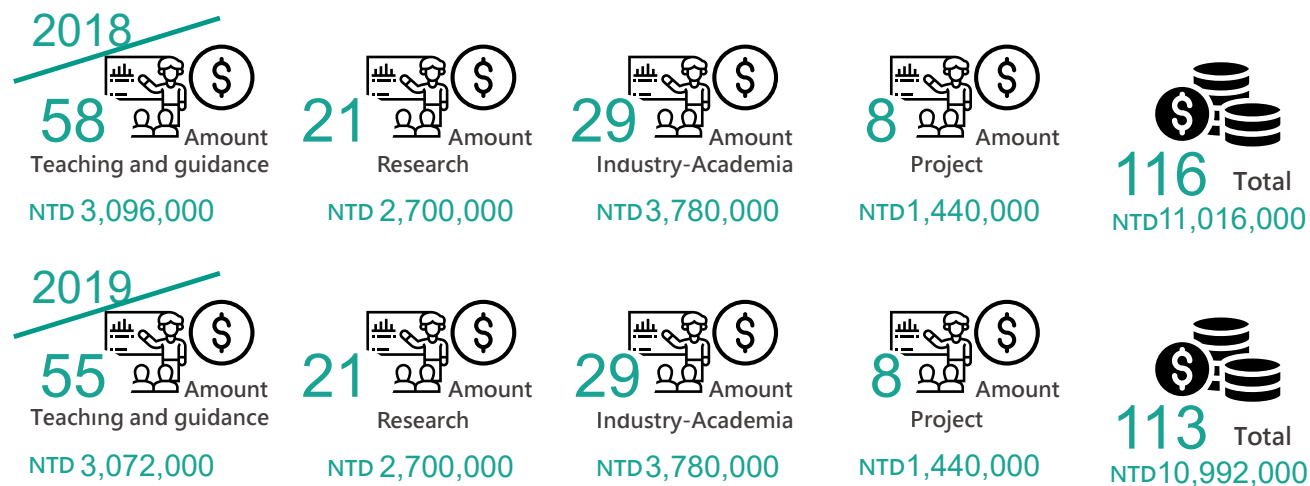
### Number of Excellent Senior Teachers from 2017 to 2019



## Academic and Industry-Academy Award

In 2018, the "key points on the flexible wage system of the higher education sprout project" award system was established to encourage teachers to invest in academic research and industry academy to recruit and retain special talents.

### Number and amount of flexible wage from 2018 to 2019

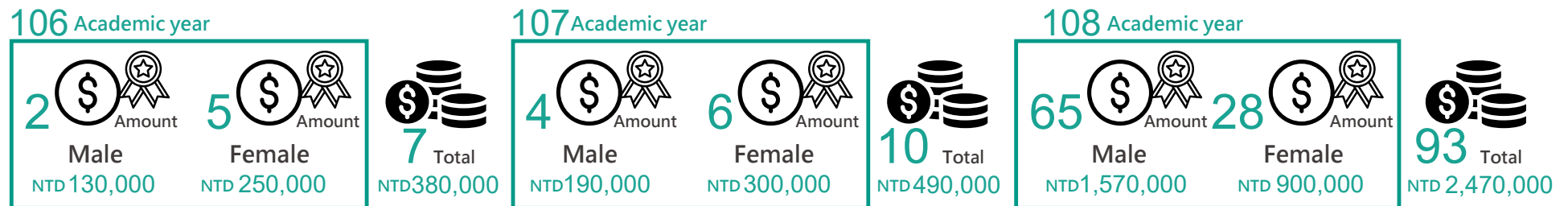


## The Students' Rewards

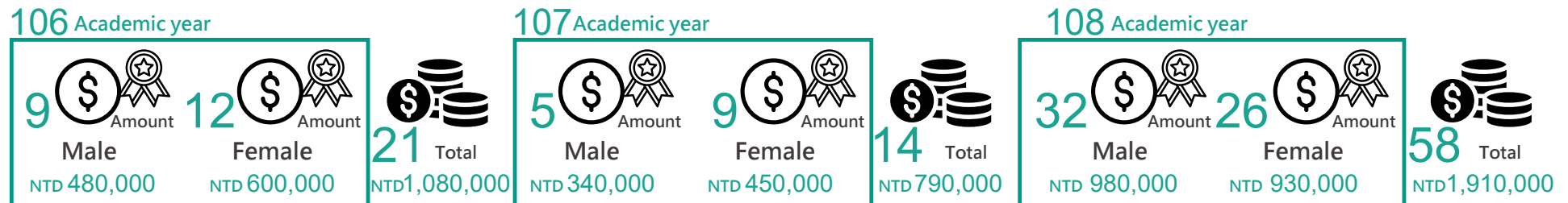
### Merit scholarship for admission

Since the 108 academic year, the Merit Scholarship for Admission has been added: "Students who are admitted to the Master's Program or the Doctor's Program by the selective examination, and meet the academic performance standards at the time of registration" can receive the Merit scholarship. As a result, the number of awards and the amount of scholarships issued in 108 academic year increased significantly compared with the previous year.

#### Number and amount of freshmen applying for Merit Scholarship for Admission for the first time in 106-108 academic year



#### Number and amount of freshmen applying for Merit Scholarship for Admission continuously in 106-108 academic year



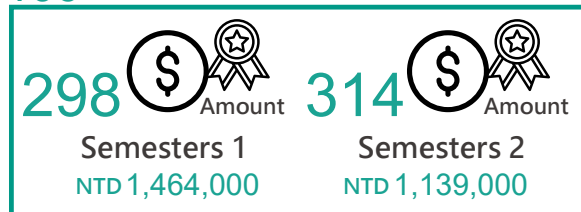


## Awards for Good Learning Behaviors

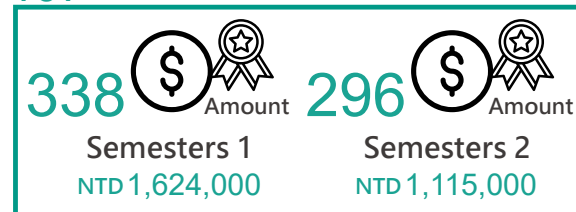
Students with academic achievements in the top three of each class and without failing subjects, conduct scores of more than 80, sports scores of more than 70, no disciplinary action and no record of absenteeism will be awarded. In addition, tuition and miscellaneous fees will be reduced and certificates will be presented at public meetings.

### Number and amount of awards for good learning behaviors in 106-108 academic year

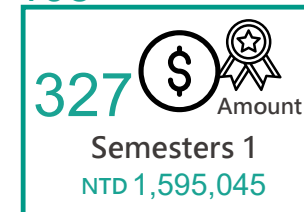
106 Academic year



107 Academic year



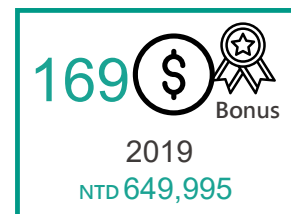
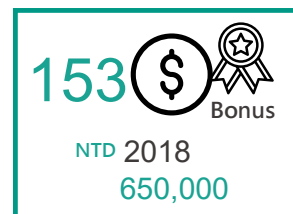
108 Academic year



## Awards for Outstanding External Performance

In order to encourage students to participate in off-campus competitions, stimulate students' creation and invention, and strive for various honors, YunTech rewards students who participate in national or international competitions and win awards.

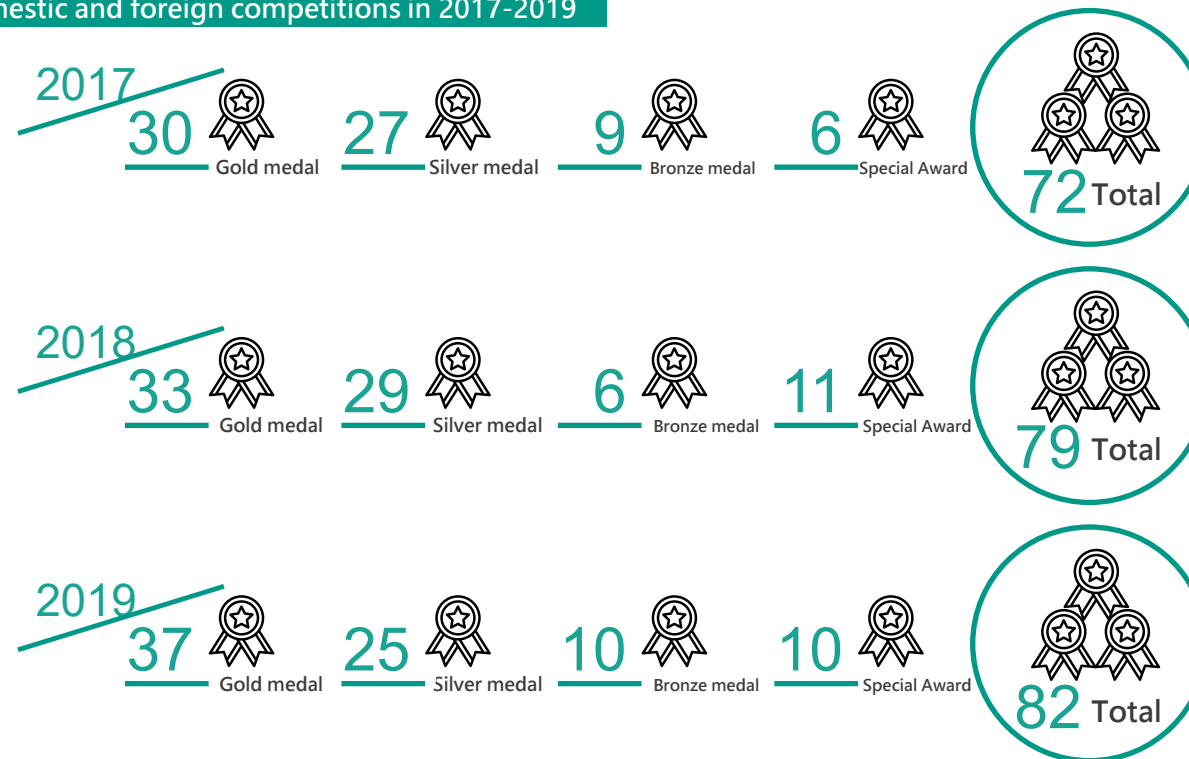
### Number and amount of awards for outstanding external performance from 2017 to 2019



## Awards for Domestic and Foreign Competitions

In order to encourage our teachers and students to participate in competitions at home and abroad, strive for glory, expand their horizons, and stimulate the sense of honor of competition and progress, we grant outstanding works to participate in various famous invention competitions at home and abroad. Such as: Moscow International Salon of Scotch and Innovation Technologies "Archimedes", International Exhibition of Scotch and Inventions Scotch of Geneva, International Invention, Innovation and Technology Exhibition (ITEX), Malaysia, International Women's Invention Exhibition and Creative Competition, The Invention and New Product Exposition (INPEX, USA), Macao International Innovation and Invention Expo, World Genius Convention and Invention Exhibition, Taiwan Innotech Expo, International Salon of Scotch and New Technologies New Time, International Warsaw Invention Show (IWIS), Seoul International Invention Fair (SIIF) Hong Kong International Invention and Design Competition, German IF Design Award (Professional Concept), etc.

### Number of awards for domestic and foreign competitions in 2017-2019









02

## Organizational Governance and Stakeholder Participation

### Major Issues

- Information security
- Academic and government ethics
- Faculty career development and training



## 2-1 Governance Procedures

Organizational governance is a process to ensure the long-term survival and competitiveness of an organization by establishing a mechanism to assist and control senior executives, so as to make them perform their duties well and provide the stakeholders of the organization with reasonable and fair treatments. In accordance with the University Law, the Ministry of education regulations and the school development plan, the university has set up various meetings and committees to supervise and assist the decision-making of the university, college and department, so as to ensure the reasonable and fair treatment of the stakeholders and the long-term development of the university.

### School Council - the Highest Governance Unit

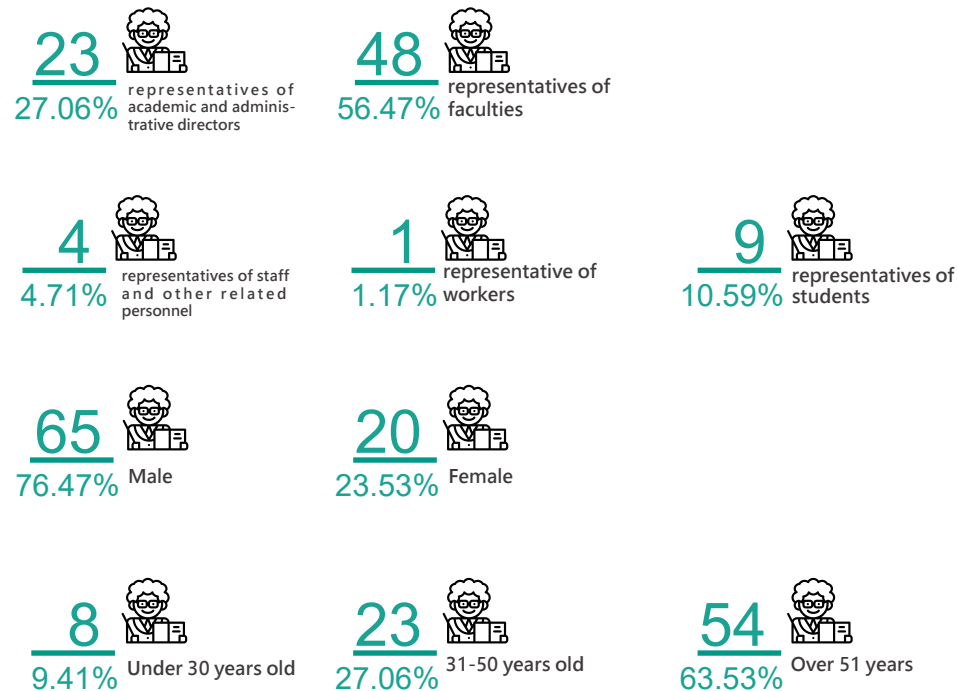
As a national technical college, our school has no board of directors, and the school council is the highest-level authority. According to the organizational rules of the school, the school council is the highest decision-making organization to decide major affairs of the school. With the president of YunTech as its chairman, the council is composed of representatives of academic and administrative directors, faculties, researchers, staff and other relevant personnel, workers and students. It is responsible for deliberating the development plan and budget of the school, organizing rules and various important regulations. The council is also responsible for the establishment, change and discontinuation of departments, institutes, divisions and affiliated institutions, academic affairs, student affairs, general affairs, research and other important matters within the university, the study of teaching and learning assessment methods, the resolution of committees or project groups set up by the School Council, meeting proposals and matters proposed by the president, etc. The meeting shall be held at least once every semester, and more than one fifth of the attendants may request to hold a temporary council. The term of office of school council representatives is one academic year, except for the representatives of the academic and administrative director.

The composition and selection method of representatives are as follows:

1. Representatives of academic and administrative director: YunTech president, deputy president, head of each college, provost, director of student affairs, director of general affairs, director of R&D, director of industry-academia, director of library, director of office of international affairs, director of general education center, director of information technology services center, director of center for excellence in learning and teaching, director of office of physical education, chief secretary, director of personnel office, director of accounting and statistics office, director of schools development center.
2. Representatives of faculties: Each department, Institute and general education center full time teacher (including project teachers) shall be selected by secret ballot. And the number of candidates shall be allocated in proportion according to the number of professors, associate professors, assistant professors and lecturers in each department and Institute.
3. Representatives of researchers: representatives shall be elected by all full-time research staff of the university who are assistant researchers or above. And one representative shall be elected for every twelve persons, except the Research Center which can have two representatives at most.
4. Representatives of staff and other relevant personnel: four representatives are selected by civil servants, teaching assistants, military training instructors, rare science and technology personnel, garrison police, project researchers and staff of school affairs fund.
5. Representative of workers: one representative shall be selected by the staff of the whole school.
6. Representatives of students: the number of student representatives is one tenth of the total membership of the School Council. They shall be elected by students in consultation with the Office of Student Affairs.



## Composition of the School Council in 108 academic year



## Meetings and committees

There are various meetings and committees for dealing with and discussing major business issues. Important decision-making meetings at the university level include: School Council, Executive Council, director meetings, department meetings; the conference of college and department affairs is the most important meeting at the level of college and department, where decisions are made as a group so that the interests of one person are not compromised to the detriment of the stakeholders. In addition, various committees have been set up to discuss, supervise and make decisions on governance, social, economic and environmental impacts. Through the operation of various meetings and committees, YunTech was able to get the best decision through the collaborative discussion of various experts from five colleges; through multiple discussions, it avoid the problems of improper organizational governance and damage to the interests of the stakeholders.



## Operation of the Committee

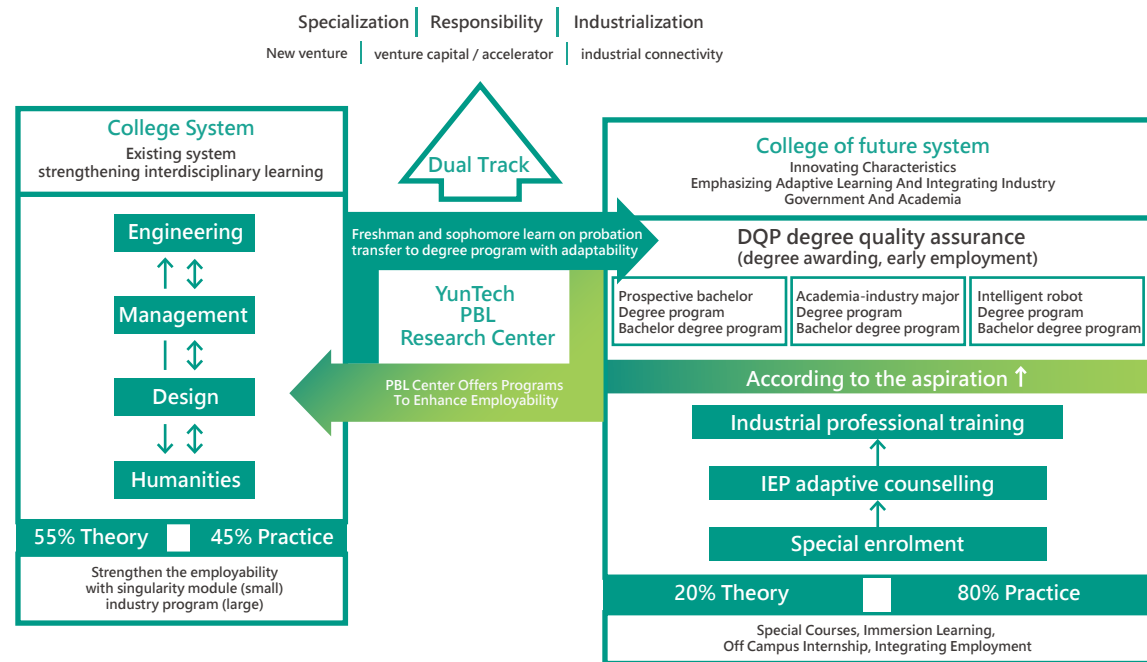
Response to impacts	Committee name	Management unit
Economy, society, environment, governance	School Affairs Development Committee	Schools Development Center
	School Affairs Research Committee	Schools Development Center
Economy, society, governance	Teacher Evaluation Committee	Personnel Office
	Curriculum Committee	Office of Academic Affairs
Economy, society and environment	Sustainability and Social Responsibility Committee	Schools Development Center
Economy and society	Admissions Committee	Office of Academic Affairs
	General Education Committee	General Education Center
Economy	Industry-Academia Cooperation Committee	Office of Research and Development
	Patent Review Committee	Office of Research and Development
Society	Gender Equality Education Committee	Secretariat
	Counseling and Guidance Committee	Counseling Center
	Library Committee	Library
	Personal Data Protection and Promotion Committee	Information Technology Services Center
	Information Security Committee	Information Technology Services Center

Response to impacts	Committee name	Management unit
Environment	Occupational Safety and Health Committee	Environmental and Safety Technology Center
	Toxic chemicals Handling Committee	Environmental and Safety Technology Center
	Campus Planning Committee	Office of General Affairs
Governance	Teacher Appeal Review Committee	Personnel Office
	Staff Screening Committee	Personnel Office
	Staff Performance Appraisal Committee	Personnel Office
	Academic Ethics Committee	Personnel Office
	Student Reward and Punishment Review Committee	Office of Student Affairs
	Student Appeal Review Committee	Office of Student Affairs
	School Fund Management Committee	Secretariat

### Building a new type of University of Science and Technology in 2022

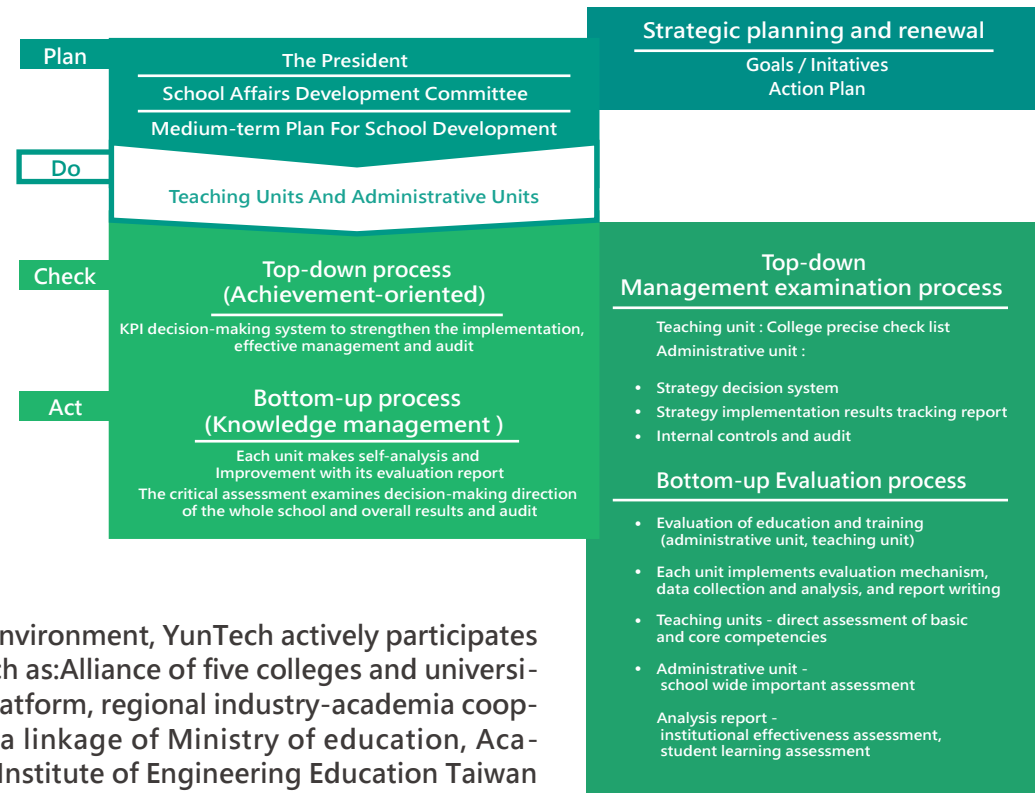
Since the establishment of YunTech, "School Affairs Development Committee" has formed with the executive, academic managers and teacher representatives called by the president. Faced with the rapid changes in the education and industrial environment, from 2018, the university has considered the transformation plan for the next five years with the four major aspects of the higher education sprout project as reference. The 2019-2023 medium-term plan of the university is based on the vision of "University of science and technology paradigm for practical purposes" which aims to build a nurture by nature educational environment, establish a mechanism for linking R&D achievements and new ventures, the use of education and R&D resources to solve local, industrial, social and global problems. It also sets continuous organizational innovation and change as its strategies. In the action plan, the key is to create the College of future and YunTech PBL Research Center, with a view to building a new type of YunTech teaching cultivation system with the characteristics of "student learning as the center, nurture by nature as the goal, educational innovation as the strategy, and society and industry as the field"

In order to implement the medium-term development plan and give full play to the progressive improvement mechanism of PDCA, the school affairs development is extended to five parts according to the school management concept, namely educational administration, academic administration, administrative support and energy saving and carbon reduction, industry university cooperation and international cooperation and exchange. With the top-down program, six leading units (Office of academic affairs, office of student affairs, office of general affairs, office of research and development, office of international affairs, industry and University Office) and their related units jointly formulate the management and examination index value, target value, short-term and medium-term development plan, etc. The bottom-up evaluation program is taken to make regular management and examination to achieve efficiency, supplemented by audit and internal control. All these efforts are made to realize the vision and goal of school governance.



In addition to continuously strengthening the operational efficiency and effectiveness, the school's medium-term plan focuses on the implementation of the higher education sprout project in the short term. In the medium term, it adjusts the contents of the plan in time to meet the needs of national development policies, industrial science and technology needs, globalization trend and school affairs development, so as to pool the consensus of the whole school and formulate the policy of collective wisdom. Moreover, it will enhance the comprehensive competitiveness of YunTech and lead the university to become a "University of science and technology paradigm for practical purposes" with "student development on adaptability, cross domain cooperation of teachers, application-oriented R&D, and international influence in technical and vocational education, practical problem solving, and basic research".

In response to the rapid changes of higher education environment, YunTech actively participates in inter and off school alliances and public associations, such as: Alliance of five colleges and universities, Yunlin County Government-Academia collaboration platform, regional industry-academia cooperation center and executive office of industry-academia linkage of Ministry of education, Academia-Industry Consortium Science Parks Central Taiwan, Institute of Engineering Education Taiwan (IEET), and Association of National University of science and technology of Taiwan, Alliance of Colleges and Universities at Changhua, Yunlin and Chiayi Counties, intercollegiate alliance of central technical colleges, Taiwan Association for higher education, association of national universities of Taiwan, Taiwan Industry-Academia Promotion Association, Academia-Industry Consortium of Taichung Software Park in Taiwan (AICTSP), Alliance of National Universities at Yunlin County, The 10th Convention on Biological, the International Partnership for the Satoyama Initiative proposed by the Japanese government and UNU-IAS, etc. Through the strategic alliance between organizations, integrate resources, complementary advantages, open resources, sharing and reciprocity, the university has established friendly inter-school alliance relationship, and improve the quality of its educational and academic level.



## 2-2 Risk Analysis and Internal Control System

### Six external factors of the overall education environment

#### Factor one / Implementation of 12-year basic education

The implementation of the 12-year basic education by the government will enhance the quality of the people, relieve the pressure of further education, and promote the normalization of junior high school teaching. Moreover, it helps stimulate the development on adaptability of high school students, improving their quality, in a bid to lay a solid foundation for higher education. However, according to the data Department of Statistics of Ministry of Education, the number of senior and technical high school graduates has changed fundamentally in the past ten years. The trend that the number of technical high school graduates is more than that of senior high school graduates is bucked. The gap between the two sides is widening year by year. The source of students from the technical and vocational system is rapidly transferred to the general system, which will be even more unfavorable to the schools with a majority of technical high school graduates. Thus, in view of the direction of the 12-year basic education, the overall curriculum structure of the school should be reviewed and planned properly in advance in order to attract outstanding talents.

#### Factor two / The situation of low birth-rate is getting worse

According to the estimated data of population growth at all levels released by the Directorate General of Budget, Accounting and Statistics of the Executive NTD, the population aged 0-14 will show a decreasing trend year by year in the next 20 years. The emergence and increasing seriousness of low birth-rate has been reflected in university enrollments. With the decreased, the problems of insufficient enrollment and lower quality of students faced by various schools will become serious. At present, the annual total number of high school graduates is lower than that of junior college students. This gap is widening. In order to attract and cultivate the talents needed by the industry, we must construct the educational characteristics different from ordinary universities.



If the young and middle-aged flow to metropolitan areas, and the elderly population concentrates in rural areas, the aging index will become worse, and resources and construction will tend to metropolitan areas on a long-term basis, forming a development gap between counties and cities. Our school is located in Yunlin County, where the industrial and commercial industry is less developed. It is a weak area in the urban-rural gap. In response to this environmental change and based on social responsibility, our school should actively play a role in solving local problems and prospering the real estate industry.

### Factor three /

Growing urban-rural gap caused by six principal cities of Taiwan

### Factor four /

The trend of industrial technology in the future

tional models, , with STEEP as the analytical framework, points out that these four talents are urgently needed for future industries will develop towards digitalization, intelligence, greening and service-orientation. In view of this, our school is actively recruiting outstanding professional AI scholars, creating relevant intelligent AI programs. We have taken stock of school-based curriculum with school characteristics, developing courses including academia-production learning, teaching-learning, pragmatic-practical courses, so as to enhance the energy of our school in cultivating students, and accumulate strength. With these efforts, students can be familiar with the industry, and apply what they have learned in practice. Thus, they can get employment after graduation, becoming outstanding talents of cross domain industry in the future. Promoting transformation of the manufacturing industry into a service industry and the service industry into a technology-based industry will lead to positive growth in value-added rates and productivity

The Global Forward-looking Trends Report, published by major international research institutions on forward-looking trends, leading the innovation of various business or opera.

### Factor five /

#### The development of international education environment

According to the Department of Statistic of the Ministry of Education over the years, the number of overseas students studying in Taiwan has shown an average growth trend in recent years. Therefore, there should be considerable room for the growth of the number of foreign students in the future. Therefore, we should give full play to the advantages of internationalization, actively promote the international exchange between teachers and students, and expand the alliance with foreign high-quality schools, so as to become the international university paradigm of science and technology in Taiwan.

### Factor six /

#### The trend of aging society

At the end of August 2017, the number of elderly people in Taiwan was 3.205 million, accounting for 13.6% of the total population. It is predicted that Taiwan will enter an aging society in recent years, with the characteristics of long life expectancy, more elderly people, high education level of the elderly in the future, rapid aging doubling and rapid decline of birth rate. Responding to the needs of the elderly, investing in relevant research, planning and providing relevant services is a subject that the school should pay attention to and face.

## Strengths

- S1. Fruitful achievement made by research and development
- S2. Promote the integration of IEET and AACSB with international standards
- S3. Outstanding performance in College of design
- S4. Excellent quality of faculties, and ranking first among universities of science and technology in the central region
- S5. A young university with potential that are most appreciated by enterprises
- S6. Teaching innovation
- S7. Good industrial strength and complete industrial chain
- S8. High employment rate of University of science and technology
- S9. The first enrolment rate of daytime bachelor program
- S10. Scholarship for great performance of entrance exam
- S11. Sound and stable financial growth
- S12. Abundant resources of book collection
- S13. Perfect campus planning and high quality learning environment

S

## Weaknesses

- W1. Relatively weak geographical position
- W2. It's not easy for alumni to raise money as a young university.
- W3. The number of teachers is relatively small, which affects the academic competitiveness.
- W4. Government subsidies are less than higher education system.
- W5. Insufficient environment for internationalization, and the weak expansion of international students

W

## Opportunities

- O1. Continuous subsidy from higher education sprout project provided by Ministry of education
- O2. The international AI program is in great need of international talents.
- O3. The deregulation of international /mainland enrolment enable the active recruit of international talents.
- O4. Ministry of education subsidizes the appointment of specialist teachers to optimize student-teacher ratio.
- O5. PBL Center Bridging industrial demand
- O6. Innovate the dual track structure and create the nurture by nature for the university of science and technology

O

## Threats

- T1. Fewer students influenced by low birth-rate
- T2. Fierce competition in academia at home and abroad
- T3. Asian countries have developed key universities
- T4. International trend, global competition
- T5. The degree of technical and vocational students is declining year by year, and the ability of graduate students to participate in research is slightly insufficient

T

## Internal Control System

The school set up "key points for setting up internal controls project team" and holds a meeting every semester to review the implementation of internal controls in each unit; formulate the internal controls system manual, and regularly review and revise in accordance with the regulations and business operation; Implement education and training to make business managers understand the importance and operation of internal controls. According to the "internal controls system assessment implementation plan", the self-assessment and overall assessment of the operation level will be carried out once a year. The internal controls project team reviews the system operation project reports of each unit every year, and provides improvement suggestions to reduce operational risks. In addition, the implementation plan of self-evaluation of internal controls was revised according to the Executive NTD's amendment to the "principle of self-evaluation of internal controls system of various parts".

In accordance with Article 7 of "National University Endowment Fund Establishment Act" proposed by the Ministry of education, internal audit office is set up as a unit specifically responsible for auditing with one director and one auditor. Thus, the "audit team of YunTech internal controls" is established.

Every year, we hold irregular meetings to review the implementation of internal controls audit, formulate the "plan for internal controls system and self-evaluation" and supervise the implementation of the evaluation plan.

The audit plan is divided into annual audit and project audit. The annual audit is determined according to the risk assessment results, and the audit business or matters should be conducted every year. Project audit is to audit designated cases, abnormal events or external concerns that may have high risks. During the internal audit, if any major violation or loss is found or the school is in danger of major damage, it shall immediately sign and report to the president.

YunTech internal audit is to implement the self-monitoring mechanism, promoting the units to achieve administrative objectives and improving operational efficiency. The audit plan is based on the risk factor table for each control operation of each unit, and the control operation items with a high-risk assessment level are formulated. 34 work operations are audited in 2019, and a total of 27 improvement measures or specific suggestions for improvement are proposed and continuously tracked in 2020 whether each unit has completed the improvement.

## 2-3 Communication with Stakeholders

### Stakeholder of YunTech



Students



Parents



Faculties



Community residents



Alumnus



Enterprises



Government organizations



Non-governmental organizations (NGO)



Suppliers


### Identification and communication of Stakeholders


The stakeholders of YunTech is defined as the person or organization that has direct or indirect influence on the school and is affected by the school. Based on this definition, the committee of sustainable and social responsibility decided to establish nine main stakeholders for communication, including students, parents, faculties, community residents, alumnus, enterprises, government organizations, NGOs and suppliers.


In addition to events, meetings and surveys, the Secretariat has set up a "System of Advice on School Affairs" to provide students and staff with the opportunity to express their opinions and responses on school-related issues. In addition, the school's development center publishes an annual report on the current state of school affairs in December each year. The report provides basic information on school affairs, enrollment and admissions, school expenses, school costs, learning experience, graduation and employment, R&D and social contribution, and stakeholder satisfaction. It publicized the results and establish multiple channels of communication to facilitate feedback from the stakeholders.




## Issues and communication channels for stakeholders of YunTech


Concerns	Communication Channel	Communication Frequency
<b>Students</b>  <ul style="list-style-type: none"> <li>-Teaching Quality</li> <li>-Learning Effectiveness</li> <li>-Teaching Resources</li> <li>-Curriculum Planning</li> <li>-Internship And Employment Opportunities</li> <li>-Safety And Health Of Campus Environment</li> </ul>	System Of Advice On School Affairs	At Any Time
	Accountability Report Of Current Affairs Of YunTech	Once A Year
	Student Complaints	At Any Time
	Have An Appointment With The President	Once A Year
	Tutor Communication	Irregular
	School Council	Once A Semester
	Service Satisfaction Survey	Once A Semester
	Teaching Evaluation	Once A Semester
	Satisfaction Survey On The Implementation Of Tutorial System	Once A Semester
	Email Address Of Each Unit	At Any Time


Concerns	Communication Channel	Communication Frequency	
<b>Parents</b>  <ul style="list-style-type: none"> <li>-Teaching Quality</li> <li>-Learning Effectiveness</li> <li>-Teaching Resources</li> <li>-Curriculum Planning</li> <li>-Internship And Employment Opportunities</li> <li>-Safety And Health Of Campus Environment</li> <li>-School reputation</li> </ul>	Accountability Report Of Current Affairs Of YunTech	Once A Year	
	Parents' forum for freshmen	Once a semester	
	School website	At any time	
	Email address of each unit	At any time	


Concerns	Communication Channel	Communication Frequency	
<b>Faculties</b>  <ul style="list-style-type: none"> <li>-Concerns</li> <li>-School Administration</li> <li>-Brand Vision</li> <li>-Financial Performance</li> <li>-Sustainable Development</li> <li>-Risk Management</li> <li>-Occupational Safety And Health Of Workers</li> <li>-Career Development And Training Of Faculties</li> <li>-Teaching And Research Environment</li> </ul>	System Of Advice On School Affairs	At Any Time	
	Accountability Report Of Current Affairs Of YunTech	Once A Year	
	Consensus Camp	Once A Year	
	Email Address Of Each Unit	At Any Time	
	Schoolwide Teaching Conference	Once A Semester	
	Schoolwide Tutor Meeting	Once A Semester	
	School Council	Once A Semester	
	Faculty Complaints	At Any Time	


Concerns	Communication Channel	Communication Frequency
<b>Community Residents</b>  <ul style="list-style-type: none"> <li>-Environment and ecological sustainability</li> <li>-Justice for community and society</li> <li>-Community development and interaction</li> <li>-Energy consumption and management</li> <li>-Utilization of water resources</li> <li>-Waste and wastewater treatment</li> </ul>	Secretariat	At Any Time
	Accountability Report Of Current Affairs Of YunTech	Once A Year
	School website	At any time


## Issues and communication channels for stakeholders of YunTech

	Concerns	Communication Channel	Communication Frequency
<b>Alumnus</b> 	-Teaching Quality	System Of Advice On School Affairs	At Any Time
	-Learning Effectiveness	Accountability Report Of Current Affairs Of YunTech	Once A Year
	-Student's Health And Safety	School website	At Any Time
	-Teaching Resources	Survey on the flow of graduates	1/3/5-year after graduation
	-Curriculum Planning	The Alumni Association	Irregular
	-School Reputation	Alumni Service Platform	At Any Time
		Email Address Of Each Unit	At Any Time

	Concerns	Communication Channel	Communication Frequency
<b>Government Organizations</b> 	-Assessment Of School Affairs And College	Secretariat	At Any Time
	-Brand Vision	Accountability Report Of Current Affairs Of YunTech	Once A Year
	-Learning Effectiveness	School website	At Any Time
	-Curriculum Planning	Assessment Of Teaching	Irregular
	-Student's Health And Safety	Certification By Professional Institutions	Irregular
	-Sustainable Development		

	Concerns	Communication Channel	Communication Frequency
<b>Enterprises</b> 	-Teaching Quality	Office Of Research And Development	At any time
	-Brand Vision	Accountability Report Of Current Affairs Of YunTech	Once A Year
	-Learning Effectiveness	School Website	At any time
	-Curriculum Planning	Employer Satisfaction Survey	Once A Year
	-Internship And Employment Opportunities		
	-Student's Health And Safety		

	Concerns	Communication Channel	Communication Frequency
<b>NGO</b> 	-Reduce Environmental Impact And Campus Management Policy	Secretariat	At Any Time
		Accountability Report Of Current Affairs Of YunTech	Once A Year
	-Service Learning And Volunteer Service	School website	At Any Time

	Concerns	Communication Channel	Communication Frequency
<b>Suppliers</b> 	-Supplier Management	School website	At Any Time
		Business Affair Group	At Any Time

## Major Issues and Impact Assessment

In order to accurately understand the topics concerned by the stakeholders, 13 major topics were selected through four steps: identification, sorting, confirmation and inspection.

### 9 stakeholders

YunTech listened to the concerns of stakeholders and considered the development of school affairs and international sustainable trends as the basis for the collection of topics, and then grouped the 18 topics according to their relevance and the characteristics of our school, which served as the basis for the design of the topics for the subsequent meetings of the School Affairs Development Committee, the Sustainable and Social Responsibility Committee and the Consensus Camp for Directors. Translated with [www.DeepL.com/Translator](http://www.DeepL.com/Translator)

1

Identification

### 203 feedbacks

Through various channels, questionnaires and the communication with the stakeholders, we have collected 203 feedbacks, and determined the major theme matrix based on the "operational impact and impact level" and the "degree of concern".

2

Sorting

### Cyclic correction

Collect comments and feedback from the stakeholders every year, and consider the development trend of school affairs and international sustainable development to revise the major issues matrix.

4

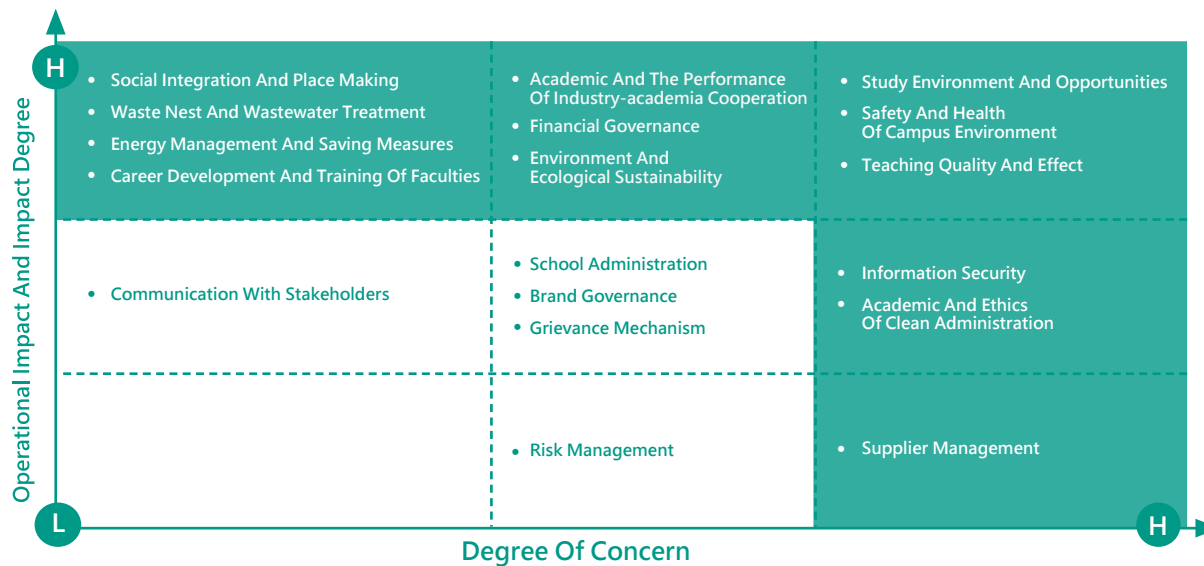
View

### Confirmation 13 major themes

The Sustainable and Social Responsibility Committee meeting decided to identify 13 sustainable development themes out of 18 themes, using the "operational impact and impact level" and the "degree of concern" matrices, which were then mapped to specific themes in the GRI guidelines and revealed their management policies and related performance information.

3

Confirmation



Compared to last year's report, there are no significant changes to the major themes and theme boundaries in this report, except for a change in the naming of themes in line with the school's administrative affairs and Sustainable Development Goals (SDGs).

- Human resource management
- Research and the performance of industry-academia cooperation
- Environmental sustainability management
- Employment environment and opportunities
- Safety and health management

Major themes in 2018

- Career development and training of faculties
- Academic and the performance of industry-academia cooperation
- Environment and ecological sustainability
- Study environment and opportunities
- Safety and health of campus environment

Major themes in 2019

## Disclosure of the Management Policy for Major Issues and Their Boundary Analysis

Teaching and administrative input, teaching and administrative activities, research and development achievements, school image and marketing, social integration and place making are the five major components of Yun-Tech's value chain, which are also the boundaries that determine the disclosure of 13 major issues.

Sustainable development topic	Major sustainable development issues for 2019	Chapters	Specific topics of gri standards/on-campus custom issues	Teaching / Training / Supporting Value Keys							
				Major Activities					Supporting Activities		
				Teaching and administrative input	Teaching and administrative activities	Research and development achievements	School image and marketing	Social integration and place-making	School infrastructure	Human resource management	Procurement
Economy	Financial governance	Chapter 3	201 Economic performance	★	★	★	★	▲	★	★	◎
	Social integration and place	Chapter 6	203 Indirect economic impacts				★	★			
	School Environment and Opportunities	Chapter 4	Custom issues	★	★	★	★		★		
	Academic and industry-academia cooperation performance	Chapter 4	Custom issues	★	★	★	★				
Environment	Energy management and energy saving measures	Chapter 5	302 Energy	★	★		★				
	School safety and health	Chapter 5	403 Occupational safety and health	★			★	▲	★		
	Waste and waste-water treatment	Chapter 5	303 Sewage and 306 waste	★	★		★	▲			
	Environment and ecology	Chapter 5	307 Environmental compliance	★	★		★	▲			
Society	Academic and anti-corruption ethics	Chapter 2	205 Anti-corruption	★	★	★	★			★	
	Staff career development and training	Chapter 2	401 Employment; 405 diversity and equal opportunity	★			★			★	
	Information security	Chapter 2	418 Customer privacy	★			★			★	
	Suppliers management	Chapter 7	204 Procurement practices and 414 Supplier social assessment	★							◎
	Teaching quality and effectiveness	Chapter 4	Custom issues	★	★	★	★				

★ : Direct impacts / ▲ : cause impacts / ◎ : business relationship impacts



Teaching Training Supporting Value Keys	Impacts on shareholders							Corresponding SDGs																			
	Enrolled students	Parents	Faculty and staff	Community residents	Alumni	Enterprises	Governmental organization	Suppliers	Non-governmental organization (NGO)	1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS	
Main activities	Teaching and administrative input		●				●		●			●	●	●		●			●								
	Teaching and administrative activities	●	●				●		●			●	●	●			●					●					●
	Research and development achievements	●	●	●	●	●	●				●	●			●		●	●									●
	School image and marketing	●	●	●	●	●						●	●		●		●			●	●		●				●
	Social integration and place making	●	●	●			●	●				●	●		●					●	●		●				●
Supporting activities	School infrastructure	●	●	●											●					●							
	Human resource management		●										●				●		●							●	
	Procurement						●														●						

### Comparison with the Contents of the United Nations SDGs Project

YunTech promotes economic, social and environmental sustainability via the power of education and knowledge. It has integrated the element of sustainable development into its vision, targets and strategy. It has practiced 14 of SDGs and contributed the most to three goals: SDG11, SDG4 and SDG8. In the future, it will continue to make its contribution and proactively tap into other sustainable items.

Chapters	Contents	United Nations SDGs Project																
		1 NO POVERTY	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS			
01	YunTech' s vision and strategy			4.3 4.5 4.7				8.2 8.3			11.7 11.a					17.6 17.9 17.16		
02	Organizational governance and shareholder participation			4.3 4.5	5.1 5.5 5.b 5.c			8.5 8.6 8.8			11.3 11.6 11.7				16.5 16.6 16.7 16.b	17.6 17.9 17.16		
03	Financial operation performance	1.3		4.3 4.5 4.a			8.2 8.6											
04	School performance		3.3 3.5 3.d	4.3 4.5 4.7 4.a		6.3 6.b	7.a 8.2 8.3 8.6	9.4	10.2	11.2 11.6 11.7	12.5	13.3				17.6 17.16		
05	Environmental protection performance		3.3	4.a		6.3 6.a 6.b	8.8			11.2 11.6 11.7	12.4 12.5	13.3						
06	Social integration and place-making			4.3 4.4 4.5 4.7			8.2 8.3 8.6			11.1 11.3 11.4 11.a	12.8					17.6 17.16		
07	Supply key management performance										12.7							
Number of corresponding SDGs items		1	3	5	4	3	1	5	1	1	7	4	1	4	3			

## 2-4 Academic and Governance Ethics

### Major Issues Management Goals and Its Elements



YunTech has formulated the Code of Ethics for YunTech Teachers in accordance with the University Law and the Teachers Law of Taiwan to explore new knowledge, improve the academic levels, spread knowledge, cultivate talents, develop high-quality organizational culture, and serve the society. This code of ethics applies to teachers with the title of lecturer or above (including teachers with the title of teaching assistant).

The Code of Ethics for YunTech Teachers include teaching ethics, academic ethics, ethics of human relationships and social ethics. For details, please visit the website of the personnel affairs ,click the “Regulation” in the title bar, then go to the “Academic Ethics” part where you can find it.

1. Teaching ethics: Teachers shall set an example for students and contribute to the well-balanced development of students’ healthy personalities. To carry out the holistic education, teachers shall give practical guidance to students on their psychology, ethics, life, words, and deeds, etc. They should teach students based on their aptitude and handle their problems impartially. Teachers can seek help from experts, scholars, and guidance and counseling units if necessary.
2. Academic ethics: Teachers shall devote themselves to pursuing academic achievements and improving academic levels. Teachers shall stick to personal wills and refuse the temptation of personal interests to safeguard academic freedom. Teachers shall make their research results known to the public, whether through speech or writing, based on integrity and conscience and take the responsibility of them.
3. Ethics of Human Relationships: Teachers shall strive to maintain a healthy relationship with school staff and students, respecting students’ reasonable rights and interests. Teachers shall work tirelessly to help our university eliminate improper political, economic, and other interference factors; they shall never make profits from public resources by taking the advantage of students and administrative staff.
4. Social Ethics: Apart from teaching and research, teachers shall participate in activities outside the campus and serve the society with the help of their expertise to promote knowledge transmission. They shall avoid improper private interests, though.

To handle cases concerning violation of academic ethics, YunTech has set up Academic Ethics Review Committee, and has formulated objective and fair review procedure to safeguard the reputation of the university and the rights of the reported. The Academic Ethics Review Committee applies to full-time teachers and researchers, project teachers paid by the university fund, as well as rare scientific and technical personnel and part-time teachers. There was one case of violation of academic ethics in our school in 2019. The main reason was that the teacher involved was not clear about academic ethics, which led to the violation. The school is committed to improving teachers' academic quality, encouraging their adoption of diversified channels for promotion, and helping them better understand academic ethics. To dismiss YunTech teachers’ worries about academic ethics caused by academic research and promotion, the school not only encourages teachers to participate in online academic ethics courses from the Ministry of Science and Technology, but also points out the common errors in academic ethics and the matters needing attention in publishing works at a briefing on teachers’ promotion, so as to enhance their awareness of academic ethics.

The research and industry-academia cooperation programs of YunTech have produced favorable outcomes. As the industry-academia research is gaining momentum, teachers and participants are required to adhere to the principle of integrity and the regulations of research ethics. When our teachers apply for research programs to the Ministry of Science and Technology, project leaders have to upload the ethics certificate to the Ministry for future reference. The candidates for project assistants should submit a certificate that shows they have studied ethics for at six hours. In 2019, a total of 452 employed project assistants were certified, which means 100% of them are qualified in this aspect. Moreover, YunTech invites the Academic Ethics Committees of the National Cheng Kung University and National Chung Cheng University or at least one of them to assist in organizing the ethics workshop each semester.

## Anti-corruption policy

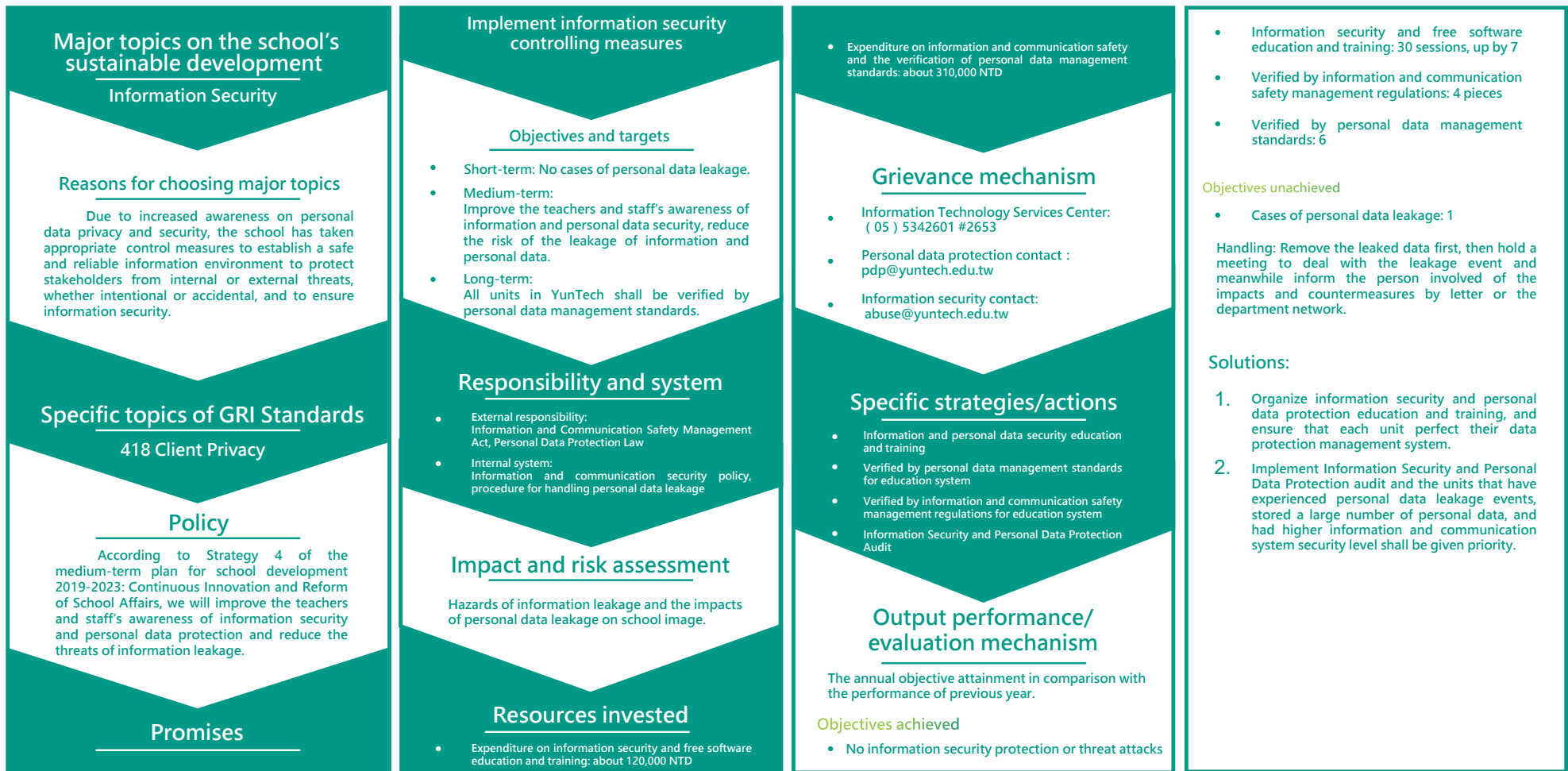
On October 31st, 2003, the United Nations Convention against Corruption (UNCAC) was approved at the General Assembly of the United Nations and came into effect since December 14, 2005. Taiwan has strived to implement anti-corruption regulations and policies of the UNCAC to integrate with the international community. The Ministry of Education has formulated ethical codes of clean governance for civil servants and teachers particularly to ensure that its affiliated schools fulfill their duties impartially, work with honesty, exercise administration strictly in accordance with the law, and improve the image of the Taiwan's government. Civil servants and teachers shall perform their duties in accordance with the law with public interests at the core and never make use of power, methods, or opportunities that their positions provide to seek unjust benefits for themselves or a third party.


The Personnel Office of YunTech provides information on personnel regulations and releases personnel e-newsletter monthly on laws and government ethics on its website. A special column for the ethics of a clean government has set up to provide a reference for the faculty. YunTech has not seen corruption since 2019.




## 2-5 Information Security

### Major Issues Management Goals and Its Elements



**30**<sub>times</sub>  Number of Personnel Conducting Information Security and Free Software Education and Training

**1053**<sub>people</sub>  Number of Participants in Education and Training

**0**<sub>case</sub>  Number of Capital Security Protection or Threat Attack Event (Core System)

### Units that Passed the Verification Scope of the Safety Management Standard of Capital Communication

- Information Maintenance and Operation Unit of the Information Technology Services Center
- Student Learning Process System
- Electronic Document System
- Global Information Network

### Units that Passed the Verification Scope of Personal Data Management Standard

- Personnel Office
- Counseling Center
- Information Technology Services Center
- Institutional Research and Planning Center
- Division of Student Assistance
- Integrated Business Group

## Information and Communication Security Policy

In order to establish a secure and reliable information environment, guarantee confidentiality, availability, and integrity of assets, and ensure proper placement of information and performance of feasible and effective information security practices, the information technology services center shall take appropriate control measures to prevent internal and external intentional or accidental threats. Also, the information technology services center shall remain regularly updated with information security laws and regulations and continue to hold course training to effectively carry out accurate classification of information security events and possible impact range and loss assessment, which will enable them to notify the security administration in the event of an attack and improve the campus' information security. Based on previously performed emergency control measures, corrective and preventive actions have been shown to effectively avoid information security incidents.

In order to conform to the information security management standard, the contact person of capital security and personal asset protection assigned by all units of the school shall participate in the audit standard education and training, understand the concept and implementation method of the information security management system, assist in assigning internal personnel for the implementation of the rules and regulations of the capital security standards and records, cooperate with on-site inspection and audit, and help reduce information risk to an acceptable level. Other personnel in the units shall receive information security education and training, implement information security protection measures, and carry out self-inspection for information security at regular intervals. Each semester, the information security audit team of the information technology services center shall formulate and execute an audit plan for conducting on-the-spot visits to monitor each unit's adherence to the rules and regulations of information security standard, in order to improve any security deficiencies and establish a safer and more reliable information security environment.

## Information and Communication Security Action

Provide stable power, uninterruptible power system, 24-hour air conditioning and fire protection system for network equipment and servers in the information center; ensure a high-quality operating environment for hardware and software equipment in the network room. The servers and database detect the health status of the main servers, storage, web page, IIS Log and Web Page Hit Count through the log management tool (Splunk).

Data message related to information security and personal data security is placed on "Information Security and Personal Data Protection Website" and "YunTech Cloud Collaboration Website/Information and Communication Safety Management Zone" for the faculty and staff's reference. YunTech also promotes the use of legitimate software and antivirus software on campus. Verified by the "Personal Data Management Standards for Education System" and "the Information and Communication Safety Management Regulations for Education System" of Information Security Certification Body (ISCB), YunTech will gradually change or increase the verification scope in accordance with its information security maintenance plan or current implementation situation.

Action	Performance
1. Regularly implement vulnerability scanning	Complete the vulnerability scanning of 115 devices, 6 website programs, 21 new websites.
2. Regularly implement Information Security and Personal Data Protection internal auditing	Audit 5 administrative units, 5 academic units and 2 research and industry-academia units
3. Regularly classify information or assets	A total of 21 administrative/teaching units, 59 administrative systems and 22 non-administrative systems
4. Regularly organize information security and free software education and training	30 sessions/ 1053 participants
5. Conduct the verification of ISCB's "Personal Data Management Standards for Education System"	Personnel Office/Counseling and Consultation Center / Information Technology Services Center/Institutional Research Planning Center/Division of Student Assistance/Integrated Business Division
6. Conduct the verification of ISCB's "Information and Communication Safety Management Regulations for Education System"	Information Maintenance and Operation Unit of the Information Technology Services Center/- Student Learning Process System/Electronic Document System/School Global Information Network Maintenance Operation

## Rights Infringement:

- After receiving a notification of information security incident from the Ministry of Education, district network center, or other organization, the information technology services center will immediately control the abnormal network connection of hosts.
- In accordance with the regulations of Notification and Emergency Operation Process of the National Capital Communication Safety Meeting, the processing schedule of the event based on its level of impact is follows:
  - For Level 4 and Level 3 events: the information technology services center shall recover or complete the damage control within 36 hours after the event is found.
  - For Level 2 and Level 1 events: the information technology services center shall recover or complete the damage control within 72 hours after the event is found.
- Handling Methods of All Sources of Reports:
  - For those reported via the Internet, the abuse information security website shall be provided.
  - For those reported via E-mail, they shall reply to the abuse account of our school through E-mail.
  - For those reported by letter, the infringing host users shall help with investigation and take measures as soon as possible, before filling in the "Information Security Incident Report" in response to the requirements of the Information Technology Services Center.

4. If the circumstances are serious, contact the IP user and notify the tutor or instructor for counseling. The network blockade on the offending host cannot be lifted until the user has been informed of the legal consequence and the user's unit has confirmed that the problem has been handled.

### Handling Process of Personal Data Leakage:

1. Immediately inform the school personal data protection contact
2. The data leakage unit shall promptly hand it over to the Information Technology Services Center for handling.
3. When a personal data leakage occurs, contact the person involved without delay by letter, telephone, fax, email or other means that can connect him to inform him of the infringed projects, the impacts and the countermeasures.
4. The damage control shall be recovered or completed within 36 hours after an event is found. The "Information Security Incident Report" shall be filled in as a response to the Information Technology Services Center.

### Cases of personal data leakage in 2019:

1. Cause analysis: On December 5, 2019, we received a message from the Ministry of Education, informing us that the search engine had retrieved the alumni data of a department. The reason why the data is leaked is that the robot placed at the back end of the department was not set with forbidden retrieval and restricted access, so that the files could be searched and downloaded through Internet keywords.
2. Handling process: On December 5th, the file was removed. On December 6th, it was confirmed that the file did not exist on the Internet. On December 26th, a personal event handling meeting was held; the person involved was informed of the relevant impacts and countermeasures by mailbox and the system. On December 27th, the processing process and the adjustment of the website settings of the institute were completed.
3. Solutions:
  - Organize Information Security and Personal Data Protection Education and Training to help all the units improve their data protection management system.
  - Implement Information Security and Personal Data Protection Audit, and the units that have experienced personal data leakage events, stored a large number of personal data, and had higher information and communication system security level shall be given priority

## 2-6 Faculty Career Development and Training

### Major Issues Management Goals and Its Elements

#### Major topics on the school's sustainable development

##### Career development and training for faculty

##### Reasons for choosing the major topics

To establish a fair and high-quality personnel environment, aside from improving the management system, motivating faculty and setting up a welfare policy, we should also construct a harmonious working environment, smooth communication channels, build grievance channels, and seek feedback from employees.

##### Specific topics of GRI Standards

401 Employment Relationship, 405 Employee Diversification and Equal Opportunities

##### Policy

According to Strategy 4 of the medium-term plan for school development 2019-2023: Continuous Innovation and Reform of School Affairs

##### Promises

- The school's employment system of the school upholds the principles of fairness and openness. As far as teachers are concerned,

the third-level Teacher Evaluation Committee has set up clear measures to complete the minutes of each meeting; the recruitment of the faculty shall be carried out in accordance with the legal procedures.

- Its priority is to cultivate and retain talents, enhance the centripetal force of the faculty, and implement education, training, and further study for faculty.

##### Objectives and targets

- Short-term: reduce student-teacher ratio
- Medium-term: Train teachers and promote diversification of teachers
- Long-term: build a high-quality environment to attract and retain talents

##### Responsibility and system

External system:

Labor Standard Law, Labor Inspection Law, Civil Service Protection Act, Civil Service Employment Act

External system:

Faculty appointment, dismissal, and salary increase; personnel management; evaluation, rewards, and punishment; training and further study

##### Impact and risk assessment

- School reputation and image
- Development of school affairs

##### Resources Invested

- Payroll cost: NTD 975 million
- Education and training: NTD 3.86 million

##### Grievance Mechanism

- Personnel Office (05)552-5808
- System of Advice on School Affairs
- Faculty Appeal Review Committee
- Staff Appeal Review Committee
- Sexual harassment complaint line and mailbox: 05-5342601#2104 ; gender@yuntech.edu.tw

##### Specific strategies/actions

- Teacher development, effective learning, and school affairs research plan
- Attract and retain talents
- Open for observation courses and teaching knowledge and ability improvement
- Set up teachers' community BOT
- Organize educational training for staff

##### Output performance/ Evaluation mechanism

The annual objective attainment in comparison with the performance of previous year.

Objectives achieved

- Full-time faculty: 420, up by 2.19%
- Staff: 324, up by 0.93%
- Faculty appeals: 1, down by 2
- Staff appeals: 0
- Pedagogical content knowledge workshops: 38 sessions, up by 22
- School-level faculty groups: 25, up by 9
- Number of educational training for staff: 91, up by 22

Objectives unachieved

- Discrimination: 2 (cases for gender equality)

Solution:

The Personnel Office releases personnel e-newspaper monthly on laws and government ethics on its website.

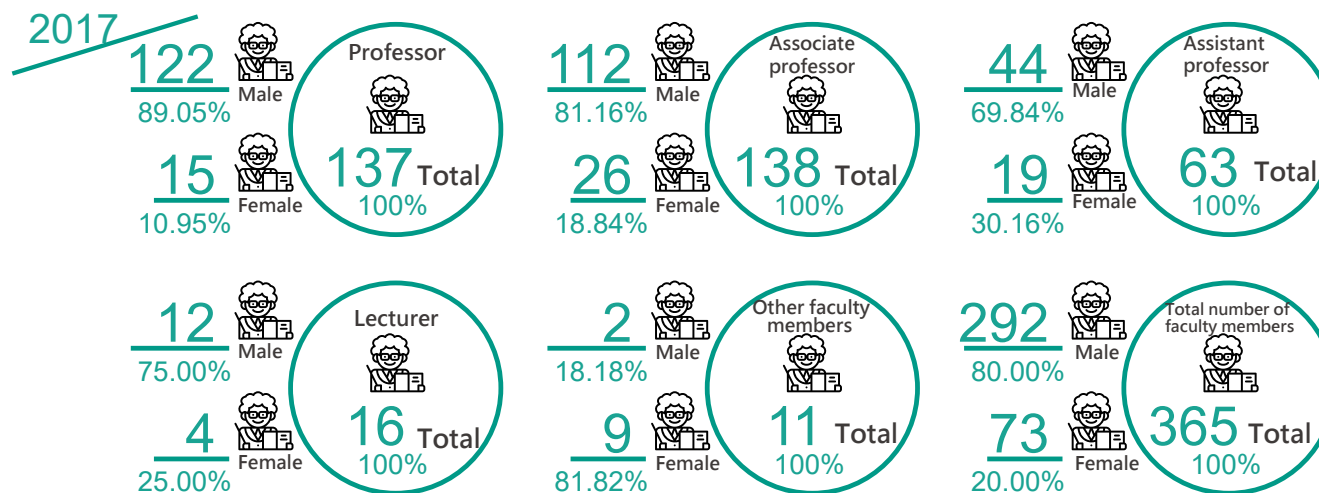


## Manpower allocation

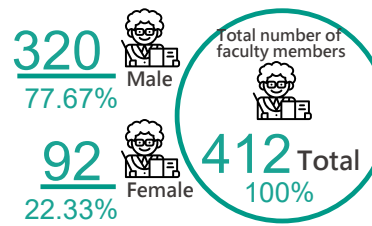
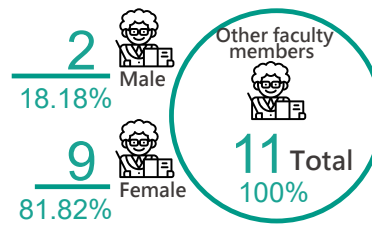
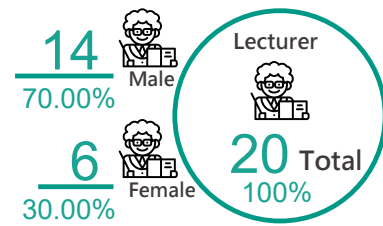
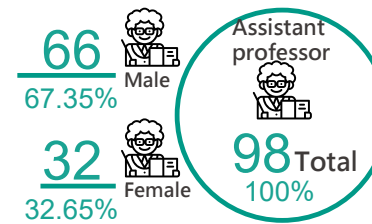
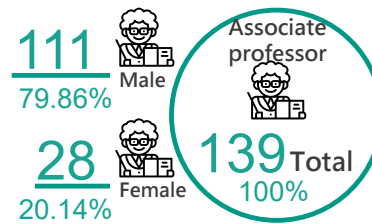
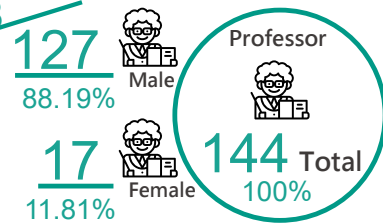
All units of YunTech have been set up and operate in accordance with organizational rules and regulations. In addition, a fully functional personnel system and regulations have been established to recruit teachers with a high sense of morality and profound knowledge and administrative staff with service consciousness. On the basis of the equality of human rights, YunTech's talent recruitment policy shows no discrimination on the grounds of gender, race, age, political orientation, marriage, and family status, making the staff more diversified. The number of faculty who register in the database of technical colleges before October 15 annually is set for reference and the data will be used for statistical analysis (excluding project staff). As a result of the adjustment of the calculation basis, the manpower allocation and the number of newly employed and resigned workers in 2017 and 2018 shall be adjusted at the same time.

## Full-time faculty members

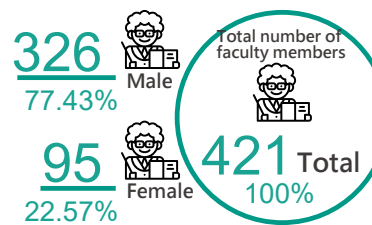
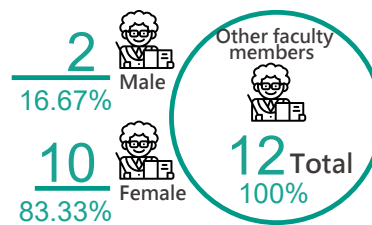
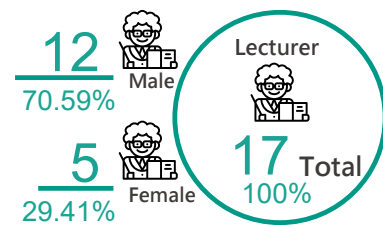
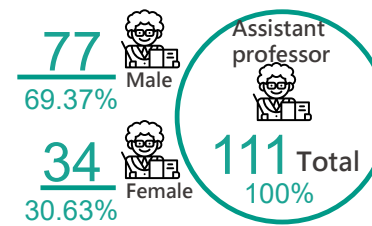
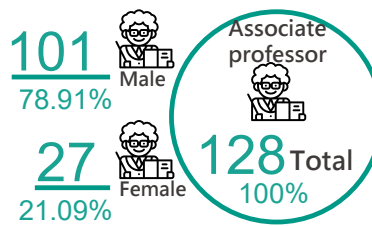
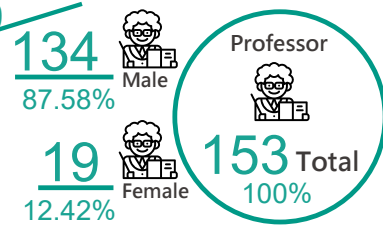
### Statistical distribution of full-time faculty members from 2017 to 2019



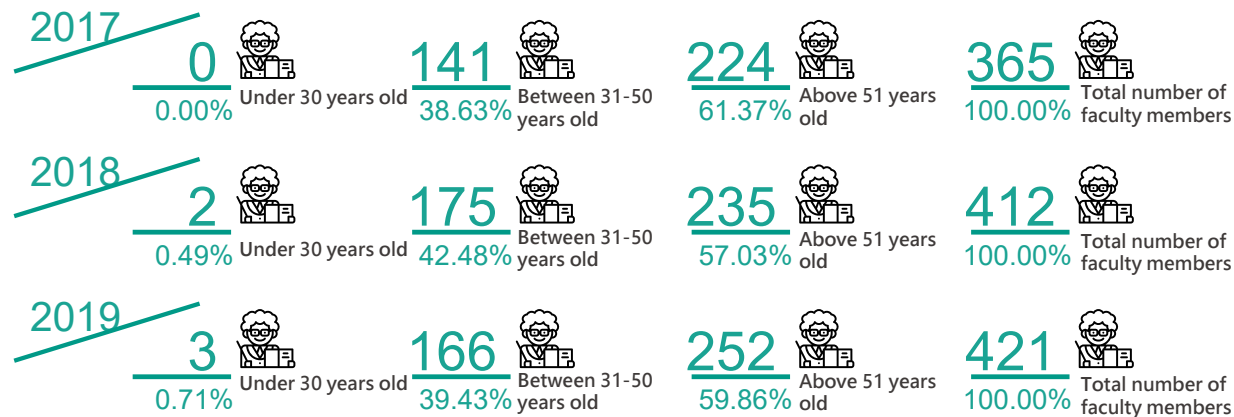
2018



2019

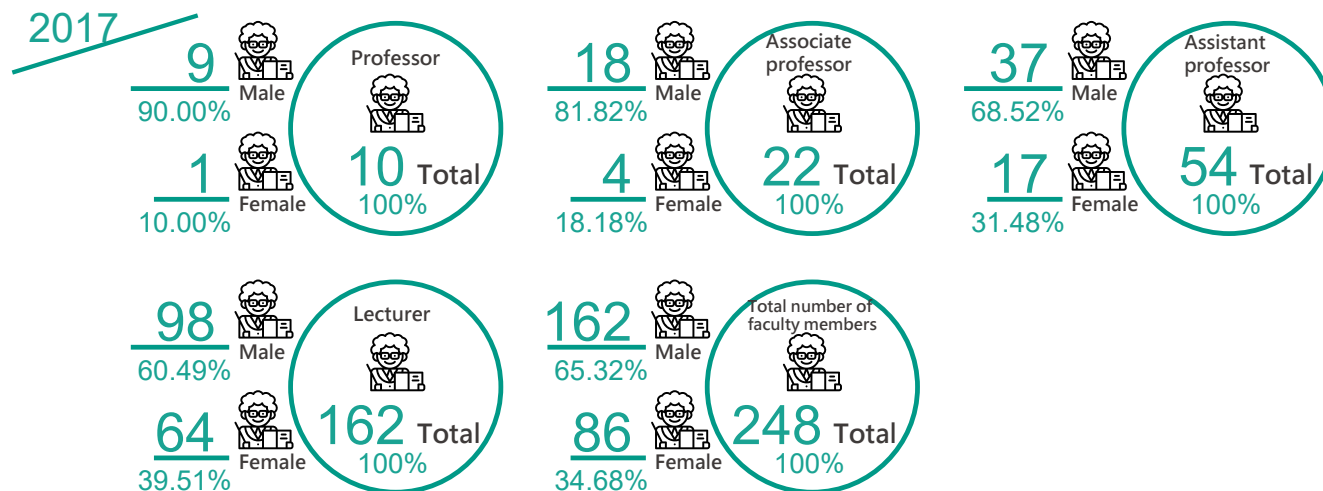


## Statistical distribution on age of full-time faculty members from 2017 to 2019

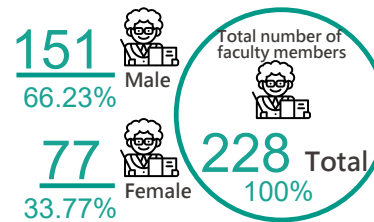
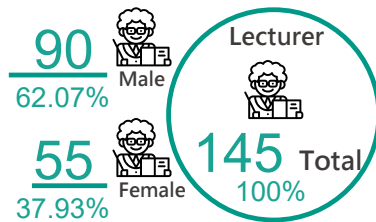
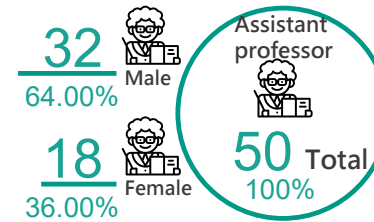
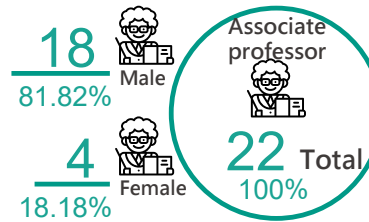
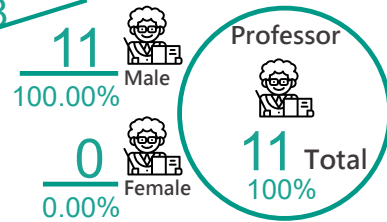


## Part-time faculty members

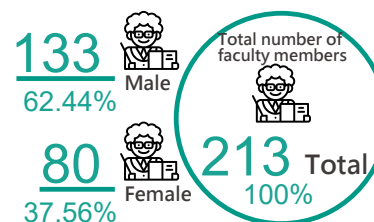
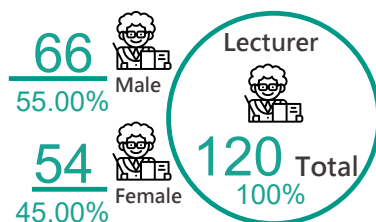
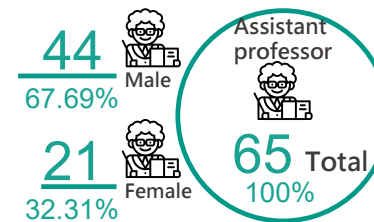
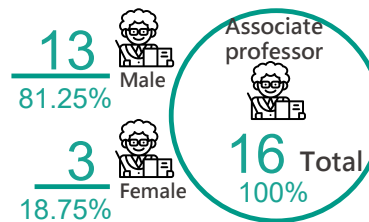
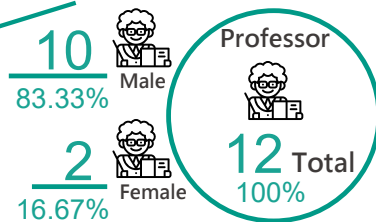
### Statistical distribution of part-time faculty members from 2017 to 2019



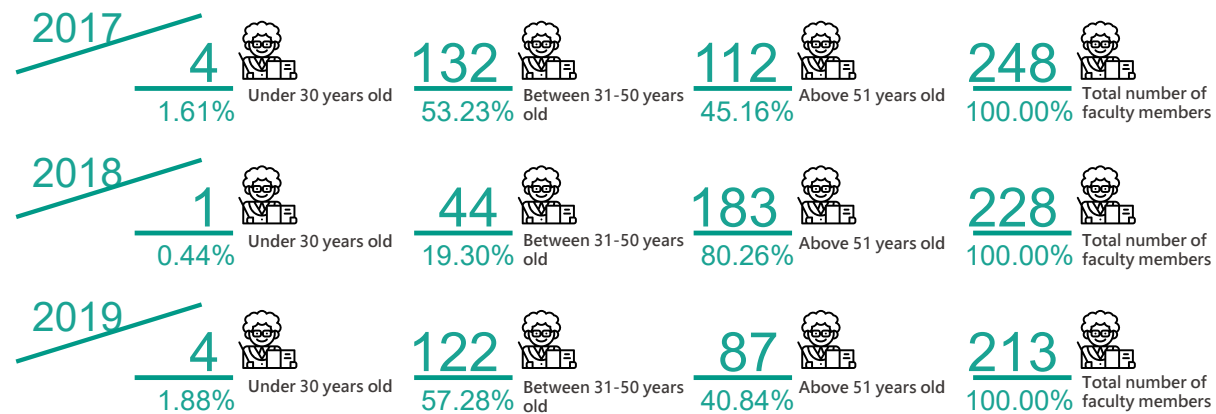
2018



2019

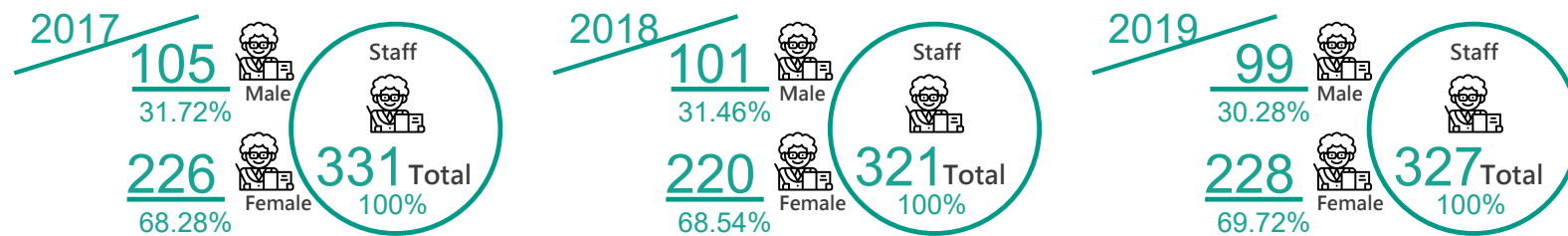


## Statistical distribution on age of part-time faculty members from 2017 to 2019

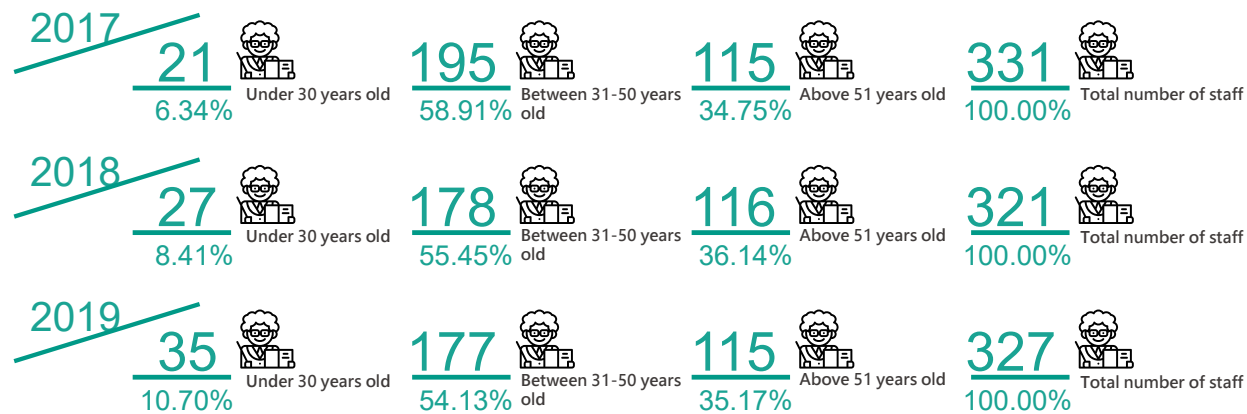


## Staff

### Statistics on the number of employees from 2017 to 2019



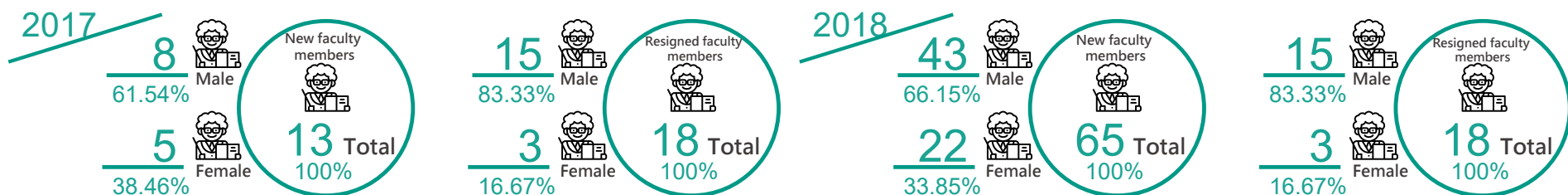
## Statistics of staff age distribution from 2017 to 2019



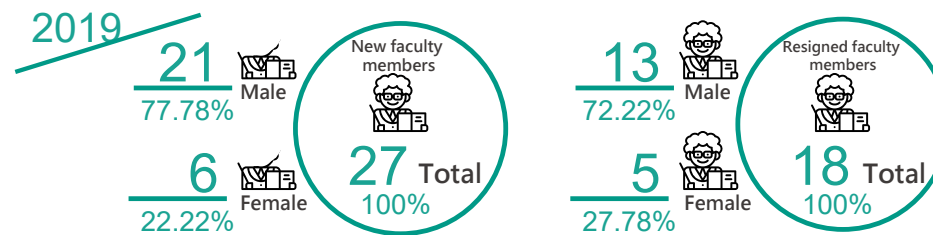
## New and Resigned employees

### Faculty members

## Statistics on the distribution of new and resigned faculty members from 2017 to 2019

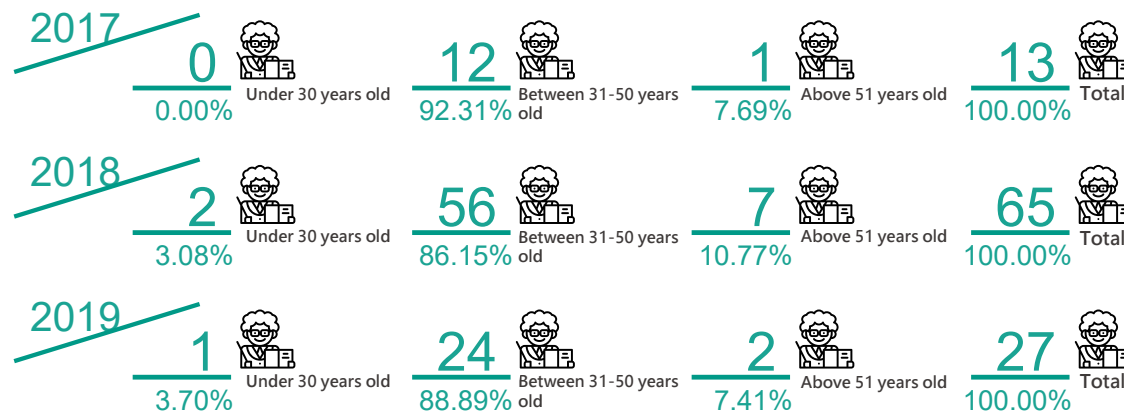




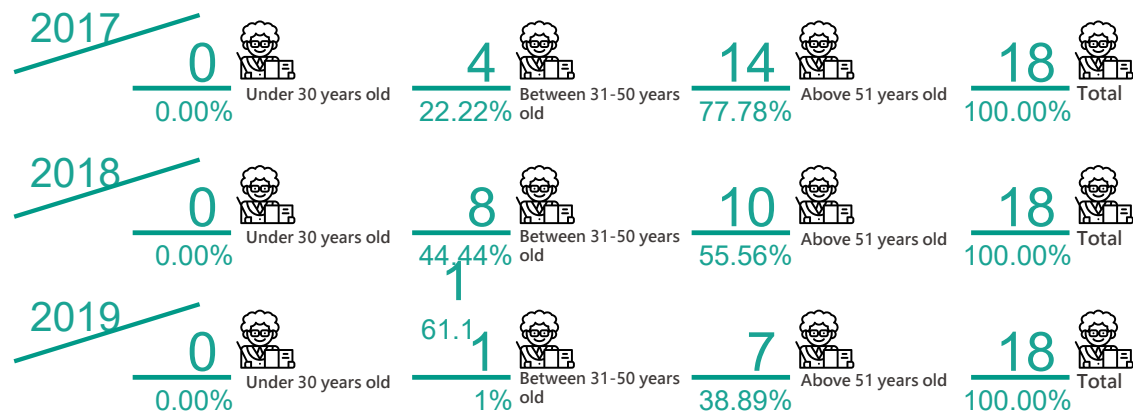


## Statistics on the distribution on the age of new and resigned faculty members from 2017 to 2019

### New faculty members

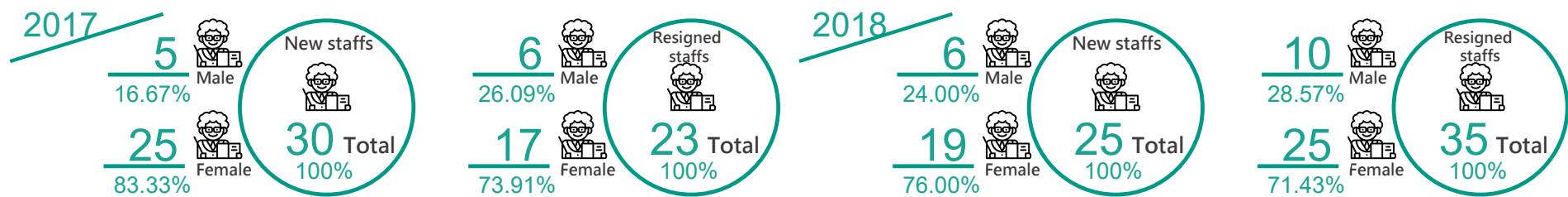


## Resigned faculty members



## Staff

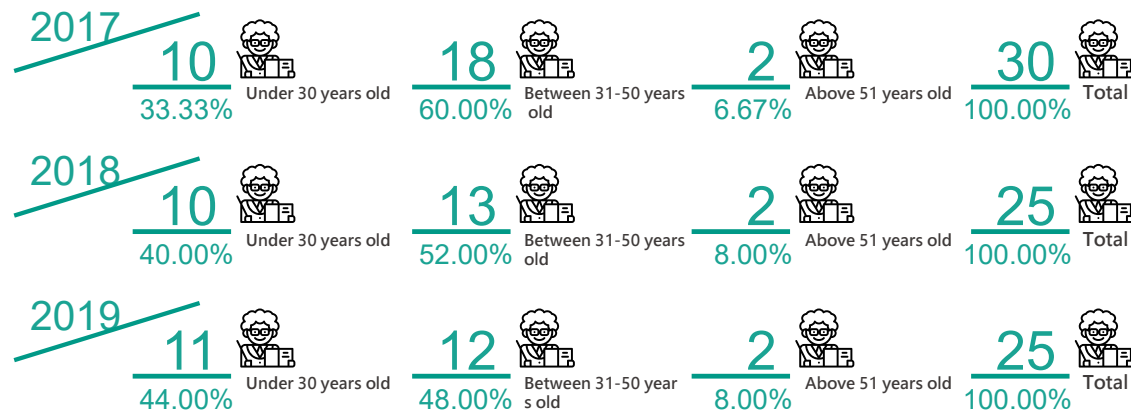
### Statistics on the distribution of new and resigned staffs from 2017 to 2019



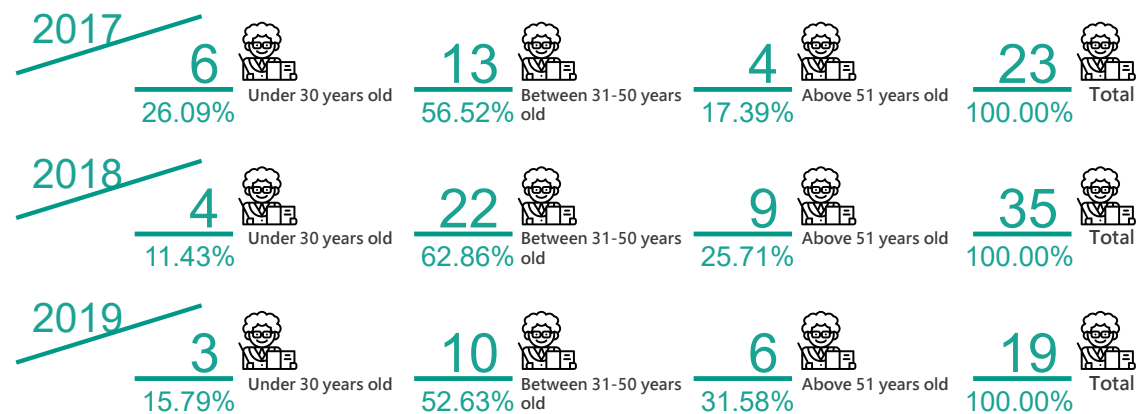


## Statistics on Age of new and resigned staffs from 2017 to 2019

### New staffs



## Resigned staffs



## Faculty member Training

### Watch teaching lessons

**48** lessons  
Open lessons

**88** faculty members  
involved

The purpose of YunTech is to carry out the mechanism of watching educational lessons to implement the mechanism of teaching quality. Faculty members with excellent standing will give on-site lessons to provide specific teaching and learning models, utilize existing teaching resources of the university, and ensure improvement of faculty members' teaching and students' learning outcomes.

## Study of teaching knowledge and ability

**38** sessions  Study of teaching knowledge and ability

**288**  faculty members participating in

To plan for faculty members' knowledge and developmental ability, and strengthen the absorption of new knowledge, we actively promote faculty members' participation in off-campus workshops, study of knowledge and ability, and improvement of the quality of practical teaching. With lectures on innovation, entrepreneurship, and design thinking as part of the main orientation for faculty members, the study of knowledge and ability cultivates the active thinking of the university which breaks through the traditional teaching modes and provides the students with a cross-disciplinary method of thinking and learning.

## Faculty Member Community BOT

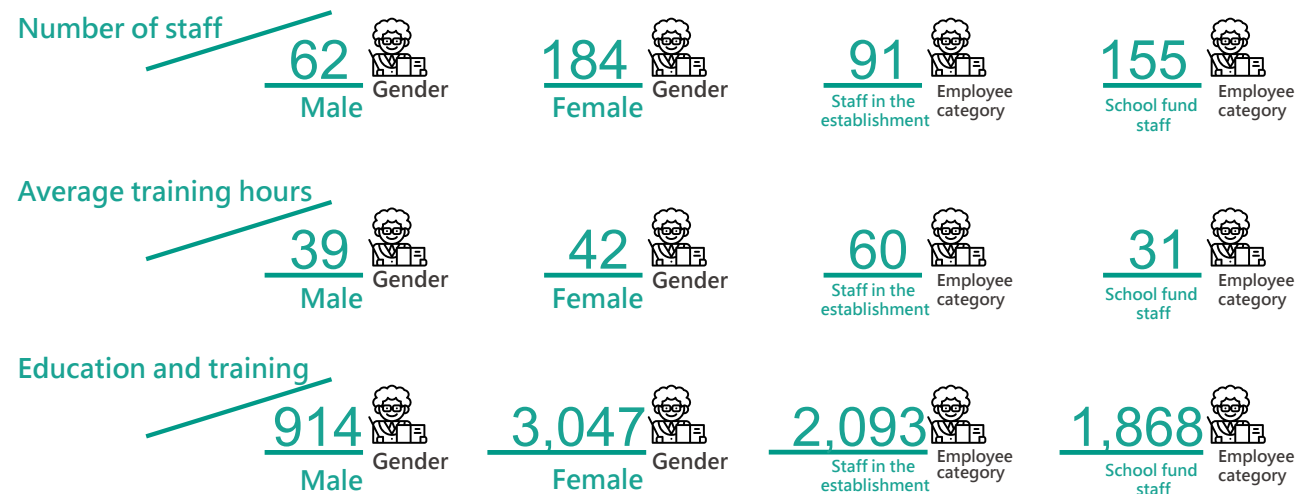
In order to promote the development of faculty members in their profession within their knowledge and ability, and to encourage faculty members to create a community, YunTech takes the lead in organizing faculty members' collective learning activities to promote communication, which makes them familiar with each other.

After implementation of the faculty member community system, the community will be transferred to faculty members. A mutual recommendation for choosing leading faculty members with self-operation and collective learning activities will be carried out.

From 2018 to 2019, 23 school-level faculty member communities have been set up, with 126 participating faculty members that accounts to 60% of all faculty members in the university faculty members who participated were able to know each other and exchange teaching experience.

## Employee Training

YunTech arranges education and training courses for the administrative staff every year. The training courses included are basic functions of staff members, professional growth, core functions and career development, management ability, policy making, legal and democratic governance values, and other related courses. The education and training adopt multiple learning modes which are based on the operating system which features professional division of labor. School education and training is managed independently by each unit. Under the power and responsibility of the unit, staff members can independently participate in online learning courses, as well as all kinds of in-person courses. Faculty members employed by each department have doctorate degrees with profound academic qualifications and extensive experience and expertise with teaching and research. Hence employees in statistic are administrative personnel (including staff in the establishment and school fund staff, but not police officers, teaching assistants and workers). The statistical data is based on the education and training hours (excluding those who have been on leave or suspended without pay) in "Lifelong Learning Network for Civil Servants" in 2019, and the total number of education and training sessions is 91.





## 2-7 Benefits and Appeal of Faculty and Staff

### Benefits of Faculty and Staff

The faculty and staff of YunTech include faculty members, civil servants, teaching assistants, military training instructors, rare science and technology personnel, police and security personnel, technical workers, and outsourced staff members selected by the school fund, project-based staff and etc. The salary of the staff in the establishment shall be paid in accordance with government regulation, while the salary of staff out of the establishment shall be paid based on the complexity of work, degree of responsibility, and required qualifications determined in the salary standard table. Employers may reevaluate the employee's expertise, performance, contribution, team spirit and other factors for salary computation. The salary paid in the institution is higher than the national basic wage and is in accordance with the provisions of the labor health insurance premiums and pensions and other related expenses of staff. The university pays according to the current treatment standards for all types of staff members, and complies with the statutory basic salary regulations. At present, 98.1% of the staff are paid more than the basic salary, and only 1.9% of staff are paid the basic

salary. The ratio of the minimum salary of the university staff to the minimum wage in Taiwan is 1:1. The university also adjusts the remuneration system for its staff by taking into account the price index, economic growth rate and the wage level of private enterprises, with a view to ensuring that staff's basic living standards are met to ensure that they are moving towards a better economic quality of life.

### Non-Discrimination

The University attaches great importance to equality in the workplace and has non-discriminatory policies:

1. In the case of a job vacancy, there is no preference in the content of recruitment according to religion, gender and age of the applicant.
2. Salary system is regardless of gender, religion, and age. New recruits are paid fairly in accordance with the salary schedule.
3. The staff of the university shall enjoy equal treatment in employment security, such as equal salary promotion system, employee progression and training opportunities.
4. All rights, interests and benefits are enjoyed by all employees without difference.

In 2019, there were a total of 2 discrimination cases in the university, which were transferred to the Education Assessment Committee by the Gender Equality Education Committee. The cases were reviewed by the three levels of the Education Assessment Committee and submitted to the Ministry of Education for handling. The Ministry of Education has sent the verdict to the faculty members after the approval. Both cases have been resolved and concluded.

### Freedom of Association

The university recognizes the rights of labor unions and employees. In accordance with the Labor Standards Law and the Measures for the Implementation of Labor Councils, we had set up Labor Councils for the purposes of harmonizing labor relations, promoting labor cooperation and improving work efficiency. Its basic spirit is to encourage voluntary consultation and cooperation between employees and management. This is to enhance the communication between employees and management and reduce the occurrence of conflicts in the university. Both parties can build a consensus through assembling ideas and potential solutions from all parties involved for its implementation.

### Appeal of Faculty and Staff

To protect the rights of faculty and staff, YunTech stipulates the teaching provisions under the relevant personnel regulations, so that faculty and staff can understand correct channels for appeal. An appeal committee shall be set up in accordance with the law to handle all kind of appeals from faculty and staff.

### Appeal Channel of Faculty members

To safeguard the rights and interests of faculty members, the university will establish the Faculty Member Appeal and Review Committee. The committee will include ten full time faculty members, two administrators, one legal professional, one education scholar of the university and one representative from the faculty member organization in our region. Faculty members with no administrative duties should not be more than two-thirds of the total number of committee members. The committee shall have a chairman who shall be elected by the committee member. His or her task is to review the appeals of the faculty members of the university.

If a faculty member considers any action taken by the university to be illegal or improper, which can harm his or her rights and interests, he or she may launch an appeal. The Faculty Member Appeal and Review Committee shall handle the review of the faculty member's appeal case.

In the academic year of 107, there was only one faculty member appeal, which was due to the dissatisfaction with the resolution of the faculty member evaluation. This was reviewed and decided by the Faculty Member Appeal and Review Committee and deemed that "the appeal is reasonable, the original measures cannot be maintained, and the school shall dispose of them according to the meaning of this review letter in accordance with the appropriate law". The appeal was formally given to the faculty member.

### Appeal Channel of Staff

If the civil servants consider the management measures of the university and the handling of working conditions to be improper which in turn, affect their rights and interests, they can file an appeal and reappeal in accordance with the law. The appeal is then handled by the Rewards and Punishment Committee, and the reappeal will be handled by the Civil Servants Security and Training Committee for review and determination of the decision.

In order to protect the rights and interests of employees, the "Organization and Review Points of YunTech Employee Appeal and Review Committee" has been formulated. The term "staff" as mentioned in these points refers to the staff members in the establishment who are employed by the university in accordance with the law, specialized scientific and technological personnel, personnel who are paid by the university's fund, police, and skilled workers.

The nine members of the Employee Appeal and Review Committee should have gender equity consciousness, and either gender should be at least one-third of the members. The meetings of the committee are held regularly. Staff members who consider the measures of the university regarding working to be improper can file an appeal in writing within 30 days from the start of the implementation of the measures of the university. As of academic year 107, there were no employee appeal cases filed.

## 2-8 Sustainable and Social Responsibility Committee

In order to implement the management of sustainable and social responsibility, YunTech shapes sustainable culture and integrates the spirit of sustainable development into education, research and development, and operations and social services. The Sustainable and Social Responsibility Committee is established to improve the universities recognition and implementation of the UN sustainable development concept. The committee meets once a year and can hold temporary meetings at any time when necessary. The committee reports directly to the top management unit of the university.

The Sustainable and Social Responsibility Committee is presided by the president and is composed of other members, namely:

### 1. Ex officio members:

President, Vice president, Chief secretary, Provost, Dean of the Office of Student Affairs, Dean of the Office of General Affairs, Dean of the Office of Research and Development Affairs, Dean of the Office of International Affairs, Dean of the Office of Indus-

try-academia, Director of the Center for School Development, Director of the Research center for Sustainable Development and Social Practice, Director of the Center for Environmental Safety Science and Technology, Director of Research Center for Water and Soil Resources and Disaster Prevention Science and Technology, Director of the Center for General Education, Director of Center for Excellence in Teaching and Learning and Director of Counseling and Guidance Center.

### 2. Selection committee members:

Two staff representatives, One representative of the faculty from each college, and Two student representatives.

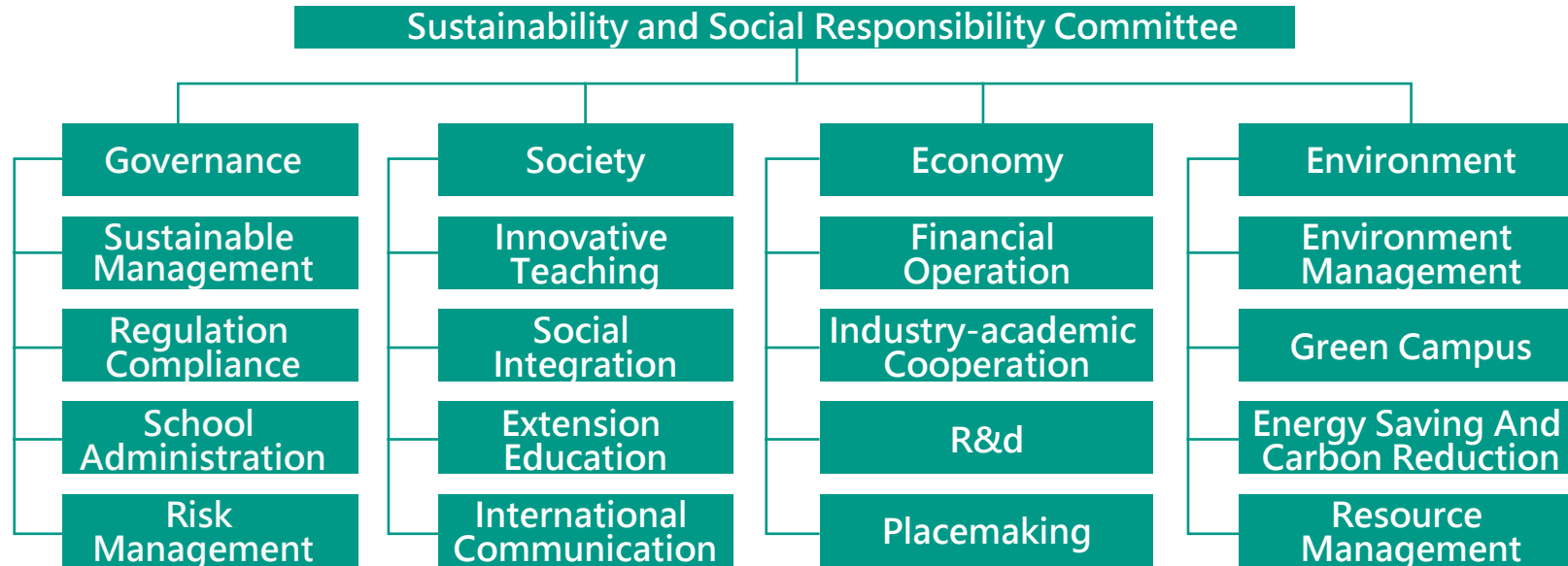
### 3. Advisory Committee:

Two to four experts or scholars in the field of sustainable development of the university are invited to attend if necessary.

The responsibilities of the Sustainable and Social Responsibility Committee are as follows:

1. Discuss, supervise and review the formulation and implementation of sustainable and social responsibility policies in the university.
2. Review and inspect relevant annual reports of the university.
3. Other issues related to sustainable development and social responsibility.

The Committee shall establish a work team, with the director of the School Development Center as the chief executive officer. It includes a secretary and a director, respectively served by the project team leader of the School Development Center and its administrative staff. They are responsible for integrating and implementing topics of sustainable and social responsibility concerned by stakeholders across all units such as governance, environment, economy, society and annual reports. The convenor of the working group referred to in the preceding paragraph shall be a member of the committee as appointed by the president.



### Highlights of Sustainable and Social Responsibility Committee in 2019

1. The 2018 sustainable report for future reference.
2. The 2019 annual work report and performance results.
3. Resolution to disclose its management policy and related performance through the 13 "major themes of sustainable development" in the Sustainable Report for 2019.







03

# Financial Performance

Major Issues

Financial governance



## Major Issues Management Goals and Its Elements

### Major theme of sustainable development of the university

#### Financial governance

##### Reasons for choosing major themes

We move with the developmental trend of higher education and the purpose of improving the quality of education. The planning and allocation of funds are crucial to the overall development of school affairs, so as to ensure the sustainable management of school funds and improve the efficiency of school development.

#### GRI guidelines for specific topics

##### 201 economic performance

#### Policy

According to the "Strategy 4: Continuous Innovation and Change in School Affairs" of the School's 2019-2023 Mid-Term Development Plan

#### Commitment

The school fund should examine the financial income and expenditure of the fund and define the financial objectives, to facilitate the managers in making

decisions on the allocation of resources and in evaluating the general financial status and cash flow, thus improving the operating performance.

In order to implement the "continuous innovation and change of school affairs", with the innovation of school affairs and the reform of the system as two dimensions. We ensure the stable and sound development of school affairs and maintain the long-term operation of the school in order to achieve the school to create an innovative, diverse, friendly, and sustainable campus goal.

#### Objective and goals

- Short-term:  
We achieve the performance targets of each unit.
- Middle-term:  
The publicity of higher education should be enhanced in the school management. On the students' learning side, we implement teaching innovations and improve teaching quality. In the social environment side, we fulfill social responsibility.
- Long-term:  
We strengthen infrastructure construction and sustainable campus management.

#### Responsibility and mechanism

External Responsibilities:  
Regulations on the establishment of national university funds, management and supervision measures of national university funds.

Internal system:  
Endowment Management Committee

#### Impact and risk assessment

School management and development are hindered

#### Resource investment

About NTD \$2.73823 billion (including university budget and overall development funds of Ministry of Education, etc.)

#### Appeal mechanism

- System of advice on school affairs
- Endowment Management Committee
- Accounting and Statistics Office special line and mailbox :  
05-5342601 #2570-2577  
#2581-2589  
acx@yuntech.edu.tw

#### Specific strategies/ specific actions

- Action Plan for "Big Data-Driven University Affairs Development "
- the "Accountability Report of the University" ( Accountability Report )
- the "Financial Planning Report"
- the " School Fund Performance Report"
- the "Budget Book of the Affiliated Unit of the School Fund"
- the "Final Account Statement of the Affiliated Units of School Fund"

#### Output performance/ evaluation mechanism

Achievement of annual goals is a comprehensive comparison of previous years' performance

#### Achievements

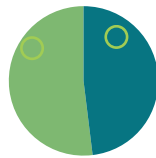
- One financial planning report
- One school fund performance report
- The annual accountability report of the university

### 3-1 Financial Performance

Government subsidy  
income

NTD 1,264,153,652

48.13%



Self-raised income

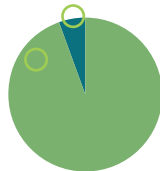
NTD 1,362,299,833

51.87%

Business revenue

NTD 2,486,563,102

94.67%



Non-business revenue

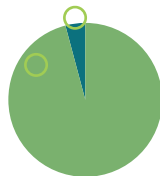
NTD 139,890,383

5.33%

Business Cost and  
Expenses

NTD 2,626,797,981

95.93%



Non-business Expenses

NTD 111,435,362

4.07%

Perfect planning and allocation of funds is related to the overall development of school affairs. For the self-positioning and development of the university, each unit formulates basic indicators and the expected benefits. For the effective management of school funds and the achievement of the school development plan, we had set up the "Endowment Management Committee". In addition to the general fund annual budget review, we assessed school funds income and application performance, and check its financial strategy in accordance with the school development goals for overall planning. Financial statements are compiled by the Accounting and Statistics Office, and then reported to the Ministry of Education and posted on Accounting and Statistics Office website for future reference .

In 2019, the performance of YunTech was excellent, with a revenue growth of 9.32%. This reflects that the vision and strategy of the university to solve local, industrial, social, and global problems with the use of knowledge. For good school performance, YunTech performance for the government subsidy amount, such as the Higher Education Sprout Project,



the university of science and technology, the excellent teaching and development plan and so on are second to none, and the subsidies for income to grow 6.78%. The school also actively promotes education by inviting experts from various fields to give lectures, and provide lifelong learning opportunities for the local population. Because of the recognition from population and the donations from different sources such as private enterprises, alumni, parents, and other stakeholders, the donated income of the university has increased by 74.33%. However, the cost of teaching research and training, the cost of cooperation between industry and learning, and the input cost of student public funds and incentive funds are increasing year by year, in order to achieve the goal of cultivating qualified professionals with humanistic care and perfect support for the disadvantaged.

Year	Item	Tuition and fees	Industry-academia cooperation income	Extension education income	Rent and royalties	Ancillary income	Financial income	Donated income	Others	Total
		2017	<b>Total (NTD)</b>	520,109,256	507,790,582	18,062,425	7,910,720	986,516,785	25,057,325	15,149,784
	Growth rate compared with last year	5.16%	18.04%	31.83%	96.30%	0.99%	-3.63%	147.71%	-0.48%	6.39%
2018	<b>Total (NTD)</b>	516,305,827	624,228,064	20,395,311	8,393,047	1,183,571,150	24,960,478	22,263,917	78,229,345	2,478,347,139
	Growth rate compared with last year	-0.73%	22.93%	12.92%	6.10%	19.97%	-0.39%	46.96%	21.16%	15.53%
2019	<b>Total (NTD)</b>	504,118,311	682,421,485	18,012,920	11,981,520	1,263,760,121	24,605,452	38,812,303	82,741,373	2,626,453,485
	Growth rate compared with last year	-2.36%	9.32%	-11.68%	42.76%	6.78%	-1.42%	74.33%	5.77%	5.98%

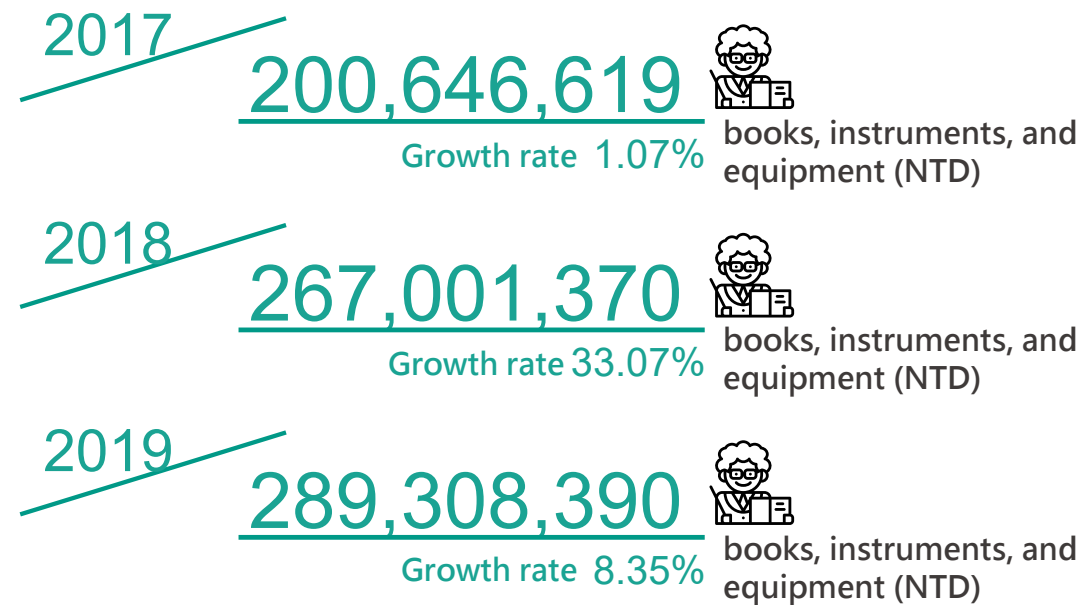
Year	Item	Teaching research and training cost	Industry-academia cooperation cost	Extension education	Management and general affairs cost	Research, development and training cost	Student fees and incentive fees	Others	Out-of-service expenses	Total
		2017	<b>Total (NTD)</b>	1,300,275,823	503,955,173	14,740,312	233,292,614	1,344,831	84,895,881	5,377,647
	Growth rate compared with last year	0.41%	4.89%	-14.16%	-12.50%	-64.45%	-24.28%	-3.02%	-22.45%	-2.65%
2018	<b>Total (NTD)</b>	1,485,450,025	603,711,329	16,016,738	244,743,455	0	115,366,273	5,546,318	92,250,645	2,563,084,783
	Growth rate compared with last year	14.24%	19.79%	8.66%	4.91%	-100.00%	35.89%	3.14%	12.01%	15.13%
2019	<b>Total (NTD)</b>	1,564,120,310	663,420,147	15,367,014	258,767,609	0	119,116,322	6,006,579	111,435,362	2,738,233,343
	Growth rate compared with last year	5.30%	9.89%	-4.06%	5.73%	0.00%	3.25%	8.30%	20.80%	6.83%

YunTech used the subsidy from the Ministry of Education and the income generated to provide student aid measures. In the academic year 107, the total number of students who benefited from this was 4,119 students and the amount of benefit given was about NTD \$55.59 million. There was no gender preference between the applicants for the aid measures and the number of subsidies.

Categories of financial aid measures	Aid person-time		Total	Ratio	Aid Total (NTD)		Total	Ratio
	Male	Female			Male	Female		
Grant for disadvantaged college students	234	228	462	11.22%	3,305,250	3,101,750	6,407,000	11.12%
Need-based financial aid	9	11	20	0.49%	432,000	528,000	960,000	1.67%
Work-study grants	792	1,011	1,803	43.77%	10,540,002	13,604,253	24,144,255	41.92%
Graduate scholarship and grants	1,150	595	1,745	42.36%	16,033,853	8,525,379	24,559,232	42.64%
Categories of financial aid measures	19	19	38	0.92%	362,000	346,000	708,000	1.23%
Preferential prices on accommodation	27	24	51	1.24%	431,898	383,105	815,003	1.42%
<b>Total</b>	<b>2,231</b>	<b>1,888</b>	<b>4,119</b>	<b>100.00%</b>	<b>31,105,003</b>	<b>26,488,487</b>	<b>57,593,490</b>	<b>100.00%</b>



In addition to the annual budget of books, instruments, and equipment, YunTech actively strives for the implementation of "Optimizing the Student-Faculty Member Ratio, Enhancing Innovative Teaching, Solid Teaching and Research Foundation, Deepening the Connections of Industry-Academia and Higher Education Sprout Project to improve equipment, cultivating talents of students and promotes the cooperation between industry and science.



## 3-2 The Relationship Between Financial Performance and R & D Innovation



The following centers are selected as the research centers of Global Taiwan's ten characteristic fields of the Ministry of Education of Higher Education

Sprout Project:  
Intelligent Regional Design Service Research Center  
Intelligent Identification Industry Service Research Center

In order to approach the vision of the new type of University of Science and Technology in 2022, cultivate the future employment function, cultivate the future competitiveness education, and lead the theoretical study with practice, the mechanism of energy classification of production, research and development, project family operation, and new-type human resource cultivation are formulated. Since the establishment of 27 PBL research centers in 2018, a total of NT\$ 32.52 million has been invested in 2019 and a total of NT\$ 92.81 million has been invested in the period of 2018 and 2019. The goal of for-practical-purposes has been implemented to establish PBL research centers. In 2018-2019, 477 productions, education and planning projects are undertaken, with a total amount of NT\$ 574.29 million. In addition, our university has formed

an industry college to cooperate with the industry, and coordinate the talents and science and technology centers of each college. It provides education and training for enterprise development courses, cultivates the R & D energy and culture of enterprises, develops the ability demand of industrial talents in the region, as well as contributes to economic development and employment promotion.

In order to carry out the leading and practical technical research in academic circles, cultivate students' technical and professional abilities, and enhance their professional skills, each PBL Research Center has employed 25 industry university project teachers. Through question oriented, interest oriented, and team cooperation oriented teaching, students can set up project-based PBL Industry Practice Course for their own project families to solve the practical problems of the industry. Among them, Intelligent Regional Design Service Research Center and Intelligent Identification Industry Service Research Center are selected as the research centers of Global Taiwan's ten charact

eristic fields of the Ministry of Education of Higher Education Sprout Project. With science and technology management as the core and smart urban and rural areas as the research axis, Intelligent Regional Design Service Research Center focuses on cross domain integrated development. Its main service objects are enterprises and government, and its core areas are school construction, local industry, and urban and rural communities. While, Intelligent Identification Industry Service Research Center aims at the key technologies of smart identification and intelligent medical image aided diagnosis technology, and cooperates with Industrial Technology Research Institute, Capital Policy Council, China Steel, Cheng Shin Tire, Unicharm, and other hospitals such as National Taiwan University Hospital, Cheng Kung University Hospital, Taipei Veterans General Hospital, and Hualien Tzu Chi Hospital, in order to promote the social and economic development and health.

In order to promote the horizontal integration and cross domain cooperation of PBL research centers, the office of industry academia cooperation regularly holds PBL learning salons every month, so that each PBL research center and each department of the school can share each other's core technology and production and learning achievements. In addition, it invites enterprises to exchange and learn together, so as to foster the trend of technical cooperation and exchange.

## Subsidy Plan of Zhuo-Zhang Zong Foundation

In 2019, with the support and donation of Consortium Legal Person Mr. Zhuo-Zhang Zong Education Foundation, Zhuo-Zhang Zong Social Welfare Research Center has been established in the University. In the form of industry-academia cooperation combined with social public welfare, it supports the industry-academia cooperation between small and medium-sized enterprises which are striving for the upper reaches and YunTech. From subsidizing funds and cultivating students' contact with practical problems, it improves the competitiveness of these enterprises, promotes the public welfare spirit of Consortium Legal Person Mr. Zhuo-Zhang Zong Education Foundation, and creates the best paradigm for university and social welfare fund.

To implement the combination of industry-academia cooperation and public welfare, our university has set up the Key Points of Implementation of Subsidy Scheme of YunTech Zhuo-Zhang Zong Social Welfare Research Center. Taking Expected Contribution of Corporate Social Public Welfare Value as the project subsidy selection item, it means that the enterprises applying for the project subsidy need to plan their achievements of industry-academia cooperation program that meet at least three categories of sustainable development goals of the United Nations, and cooperate with the annual results conference to share the cooperative R & D achievements. From August 2019 to April 2020, a total of 30 projects have been subsidized with NT\$ 5.71 million, which has reached 69 projects of the 16 goals of the United Nations Sustainable Development Goals (SDGs). Among them, health and well-being (SDG3) and quality education (SDG4) account for the largest proportion.

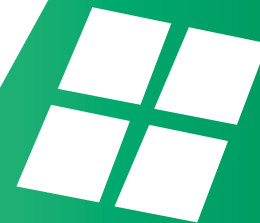




# 04 Education Performance

## Major Issues

- Education Quality and Effectiveness
- Education Environment and Opportunities
- Academic and Industry-academia Collaboration Performance



## Major Themes Management Policy and its Elements

### Major Themes of YunTech's Sustainable Development

Education quality and effectiveness, education environment and opportunities, academic and industry-academia collaboration performance

### Reasons for Major Theme

To provide quality and suitable education, YunTech has adopted meaningful intelligent learning strategies in the teaching process to promote student's autonomous learning. Based on the excellence teaching as a paradigm, the teachers at YunTech are equipped with outstanding R&D ability to deliver remarkable achievements in the invention, exhibition, patent, and industry-academia cooperation.

### Specific Themes of GRI Standards

#### Self-designed Themes

### Policy

Follow YunTech's Medium-term Development Program during 2019-2023, including "Strategy I: Build an Educational Environment to Nurture by Nature", "Strategy II: Build a Connecting Mechanism between Research & Development Achievements and Start-ups" and "Strategy III: Use Education and Research & Development Resources to Solve Local, Industrial, Social, and Global Problems".

### Commitment

- Each graduate will develop on adaptivity, have passion for work and repay society with a grateful mind.
- Every teacher has his own role with cross-domain cooperation and enthusiasm.
- Make outstanding contributions in solving local, industrial, social, and global problems.

### Objective

- Short-term: Achieve performance indicators on education/industry-academia research.
- Medium-term: Cultivate skilled personnel with humanistic care and accumulate the energy of application-oriented research to exert the local, industrial, social, and global influence.
- Long-term: Based on the school development program, along with related research issues and placemaking, YunTech has followed the spirit of learning with practitioners. Adhering to the overall planning with considerations of teaching, curriculum and employment, YunTech will never give up any students to improve the teaching quality, upgrade employment environment and create more job opportunities for students.e.

### Responsibility and System

External System:

Higher Education Sprout Project by Ministry of Education, Placemaking Program of National Strategy Plan, and University Social Responsibility (USR) by Ministry of Education.

#### Internal System:

Awards for academic journal papers, key points of flexible salaries by Higher Education Sprout Project, industry-academia rewards, fee for patent application, subsidy for patent activation, 1+4 certificate reward for students, subsidies for international competition and innovative entrepreneurship.

### Impact and Risk Evaluation

- University Reputation and Image
- Future Economic, Industrial and Human Resources Development (Digital, Intelligent, Green, and Service-oriented)

### Invested Resource

- Subplan 2 of Higher Education Sprout Project: A fund of around \$NT 3.69 million provided to PBL Center for practical purposes.
- Subplan 5 of Higher Education Sprout Project: A sum of \$NT 22.9 million for teacher development, effective learning and school researches.
- Subplan 8 of Higher Education Sprout Project: A fund of \$NT 16.38 million for industry-university R&D energy grading plan in intelligent application.

### Complaint Mechanism

- Advice System of Administrative Affairs

- Complaint and Comment Committee of Teachers
- Complaint and Comment Committee of Staffs
- Guidelines for Students Complaints

### Specific Strategy / Action

- Action plan of Homogenous Starting Point for Freshmen
- Carry out Rubrics Evaluation Mechanism
- Carry out UCAN College Employment Platform for measurement
- Carry out Technological and Vocational Education Grouping Plan to Promote Industry-Academia Cooperation and Talent Cultivation Platform by Ministry of Education
- Carry out Deepened Digital Learning Promotion and Innovative Application Program by Ministry of Education University
- Establish Degree Qualification Profile
- Carry out Alumni Tracking, Employer Satisfaction Survey and Alumni Feedback Communication
- Host Achievement Exhibition and University Employment Expo
- Promote Student's Industrial Internship
- Hold International Exchange Cooperation Program
- Enhance Patent Capacity and Technology Transfer
- Micro-entrepreneurship of teachers, students or graduates
- Introduce industrial experts for collaborative teaching



## Major Themes Management Policy and its Elements

### Output Performance / Evaluation Mechanism

- A comprehensive comparison between the achievement of annual goals and last year's performance

#### Targets that have been reached

- Number of opened cross-domain courses: 365 in total increased by 32.25%
- Number of cross-domain courses selected by students: 5,455 in total increased by 83.58%
- Number of opened innovative entrepreneurship courses: 48 in total increased by 17.07%
- Employment rate of students: 95.20% increased by 0.02%
- Average salary of students: \$NT 41,869 increased by \$NT 3,573
- Times of special education and life education activities: 350 in total increased by 69.08%
- Number of published academic papers: 576 in total increased by 18.87%
- Number of Industry-University Collaboration Projects: 932 in total increased by 13.38%

#### Targets need to be reached

- Average completed rate of homogenization for freshmen in summer: 82.5% in total dropped by 7.5%

Improvement plan:  
Started remedial teaching for undergraduate students after the school begins

Improvement plan:

1. Improve related laws and regulations to support start-ups.
2. Publicize the news that YunTech has allowed companies to register at campus.
3. Construct more beneficial innovative entrepreneurship environment and resources.


- Total amount: \$NT 1.21723 billion in total, reduced by \$NT 73.71 million


Improvement plan:

To develop the Planning Collaboration Platform for all teachers and researchers for cross-domain collaboration and certificate information inquiry to increase the planning performance.


## 4-1 Innovative Teaching and Learning Effectiveness

**20%**  Cross-curricular collaboration  
teachers engaged in collaboration

**83.58%**  Cross-curricular course  
attendance growth rate

**3.03%**  Innovation and Entrepreneur  
increase in the number of students enrolled in the course


**23**  rooms  
NT\$19.26 million  
Renovation of smart spaces


**352**  million  
participants has been involved  
2,244  
Deepening and enriching the promotion and innovative application of digital learning

### The YunTech PBL Research Centre and the College of the Future's new teaching system

In order to move towards a new type of technological university in 2022, YunTech has created a new educational structure that effectively integrates industry issues, school responsibilities, and research and innovation energy within the existing system, and is progressing in parallel with the existing faculty system. The establishment of 27 "PBL Research Centres" to highlight the Technological and Vocational Education characteristics of "linking learning and employment" and the value of "academic and industrial advancement" in technical and vocational higher education; and the establishment of the "College of the Future" to nurture confident and self-directed lifelong learning citizens. The College of the Future was established to nurture self-confident and independent lifelong learners, and to uphold the teaching action agenda of "core competencies, continuous improvement, industry-academia integration and international links". With the dual tracks of "PBL Research Centre" and "College of Future", this university has created a new YunTech teaching and cultivation system with "student learning as the centre, nurture by nature as the goal, educational innovation as the strategy, and society and industry as the field". This university will be a "YunTech University of the Future" with the characteristics of Technological and Vocational Education in Taiwan.

### Successful promotion of the concept of reciprocal industry-academic collaboration

 No maladjusted students

 No teachers who cannot reconcile teaching and research

 No company unable to find talent

In order to inject the necessary capital for students to enter society and adapt to the changing socio-economic environment, YunTech has continued to loosen the existing system and establish innovative teaching and learning mechanisms. Therefore, students can accurately grasp and appropriately respond to the rapidly changing emerging challenges and complex situations of the future and finally they are able to timely review and reflect on what they have done.

### Cross-disciplinary learning, shaping the wave of innovation and entrepreneurship

In order to strengthen students' abilities in interdisciplinary and innovative entrepreneurship, this university has integrated cross-disciplinary collaboration and innovative entrepreneurship issues into the curriculum, offering interdisciplinary courses and innovative entrepreneurship courses since 2017, in which about 20% of teachers devoting themselves to cross-faculty collaboration.

College of Future cross-disciplinary presentation



Year	Cross-domain courses	Number of students	Courses growth rate (%)	Attendance growth rate (%)
2017	200	2,060	NA	NA
2018	276	2,966	38.00%	43.98%
2019	365	5,445	32.25%	83.58%

Year	Innovation and Entrepreneurship Course	Number of students	Courses growth rate (%)	Attendance growth rate (%)
2017	33	2,257	NA	NA
2018	51	2,710	54.55%	20.07%
2019	48	2,792	-5.88%	3.03%

## IR Big Data Analytics to support/launch freshman summer homogenization programs

The multiple admissions channel, the star project, and the nurture by nature policy have allowed the technical college to recruit outstanding students from common high schools and vocational school, in which they find out that the starting points of the newly enrolled students are diversified in their behaviors. Based on the premise of not abandoning any student, four courses, including calculus, physics, economics, and color science have been analyzed and selected for free homogeneous courses (including basic competency testing) before students enter the college through online channel, and the average completion rate of newly enrolled students in the 108th academic year is 82.5%

Completion rate of the first proficiency test for new students enrolled in the 108th academic year.	
Homogenization Courses	Completion rate
Calculus	79.5%
Physics	76.4%
Chromatology	95.8%
Economics	88.6%
Basis ability testing	Completion rate
Chinese	86.4%
English	90.5%

The students' enrollment pipeline release date is different, and some classes overlap with our freshman training activities, and the test is during the summer, students go abroad, work part-time, and overseas students' status registration procedures are complicated, so the achievement rate is not 100%. Compared to the previous homogeneous curriculum, teachers are able to understand the differences in students' abilities before the beginning of the semester, so that they can plan the curriculum more efficiently and enhance the learning effectiveness.

## Effective Renovation of Smart Classrooms

YunTech has invested NT\$19.26 million to support the renovation of teaching spaces by continuously upgrading classroom facilities, integrating PBL teaching methods, enhancing students' learning competitiveness, implementing flipped education, and activating smart education and teaching mechanisms. From 2017 to 2019, this university will complete the renovation of 23 teaching spaces with a total floor area of 4356.47 square meters. In 2019, the number of teachers and courses using the smart learning spaces increased by more than 1.6 times compared to the number before the renovation.

## Deepening Digital Learning Promotion and Innovative Applications

YunTech has invested NT\$19.26 million to support the renovation of teaching spaces by continuously upgrading classroom facilities, integrating PBL teaching methods, enhancing students' learning competitiveness, implementing flipped education, and activating smart education and teaching mechanisms. From 2017 to 2019, this university will complete the renovation of 23 teaching spaces with a total floor area of 4356.47 square meters. In 2019, the number of teachers and courses using the smart learning spaces increased by more than 1.6 times compared to the number before the renovation.

## 4-2 Student Employment Outcomes

### Results of the 2019 Survey 106 Alumni Flow One Year After Graduation Survey

85.55%  Questionnaire return rate

95.20%  Employment rate

NT\$ 41,869  Average monthly salary

5  Number of start-ups

### Graduate flow

Alumni resources are one of the most important assets of YunTech, and alumni feedback allows this university to reflect on the appropriateness of school management and curriculum planning. The questionnaires are used to track the career development status and feedback of alumni, which are used to review the objectives of the faculties and departments, the implementation of curriculum planning and the adjustment of teachers' teaching.

The 2017 to 2019 Post-Graduation Year Flow Survey was conducted from the 104th to 106th academic years, with a questionnaire return rate of over 80% and a graduation employment rate of over 94%.





2017  
104  
Graduation  
Year

**80.42%**   
Number of Graduates 2,523  
Number of people surveyed 2,029  
Question roll  
recovery rate %

**94.96%**   
Average monthly NT\$ 38,772  
salary  
Graduate flow  
related survey

2018  
105  
Graduation  
Year

**86.01%**   
Number of Graduates 2,530  
Number of people surveyed 2,176  
Question roll  
recovery rate %

**95.18%**   
Average monthly NT\$ 38,296  
salary  
Graduate flow  
related survey

2019  
106  
Graduation  
Year

**85.55%**   
Number of Graduates 2,456  
Number of people surveyed 2,101  
Question roll  
recovery rate %

**95.20%**   
Average monthly NT\$ 41,869  
salary  
Graduate flow  
related survey

## Employer Satisfaction

This university is also concerned about the situation of students after they have graduated and entered the workplace. In the past three years, YunTech's employer satisfaction rate has remained stable, with a score of 3.9 in job performance, 4.0 in job adaptation and 4.2 in job ethics.

## Employer Satisfaction Survey Results 2017 to 2019



## Start-up companies

Our students and teachers have a lot of research and development energy, and this university also promotes the commercialisation of R&D results to help students and teachers realise their entrepreneurial dreams. Through the competition, innovative students and teachers are guided to set up entrepreneurial teams, which in turn lead to the establishment of campus start-ups, creating a culture of innovation and entrepreneurship at YunTech, and nurturing more students and teachers to invest in future innovation and entrepreneurship. In the past three years, a total of 13 new ventures have been established. This university is also committed to creating an innovative and entrepreneurial atmosphere on campus and creating a friendly environment for entrepreneurship. To facilitate the commercialisation of R&D results and encourage the development of spin-offs, industry experts are invited to select teams with commercialisation potential each year and provide guidance on the establishment of new ventures on campus.



Award-winning photo of Green Light



Award-winning photo of Tinco



## 4-3 Effectiveness of Life Education



### Integration of Life Education into the existing Liberal Studies curriculum

The main mission of Liberal Studies is to strengthen the basic academic skills and humanities of students in technical colleges, to cultivate students with a correct outlook on life and professional ethics, and to implement the spirit of whole-person education. Cross-curricular learning courses (micro-credit courses), etc.

This university is actively communicating with the Liberal Studies teachers each term, with the hope that the curriculum will incorporate life education content, which in turn will become a take-home nutrient and make life more positive. Most of the Liberal Studies courses offered by YunTech allow students to reflect on the meaning of life. For example, the course "Stories: Narrating and Growing" requires the production of a life story book, which allows students to reflect on their past experiences through the assignment process, while the weekly theme sharing leads students to reflect and listen to their stories to realise different values and mutual respect.

Under the concept of "all teachers are liberal arts teachers", YunTech invites teachers from all faculties and departments to participate in the Life Education Programme, and set up a team of "Life Education Programme Seed Teachers". The team meets monthly to exchange ideas and invites leading professors in the field of liberal studies from outside the school to give talks and interact with seed teachers. The course syllabus is based on an "adoption" approach, combining the teachers' personal strengths and interests with those of the teachers who are responsible for the development of the syllabus and teaching materials. In order to ensure that new students feel the constant care and encouragement of the teachers, the seed teachers will be responsible for leading the new students in the College, so that they can build a good learning environment and relationship with others as soon as they enter the

### International Volunteer Service Team

The Service Learning Unit of the Academic Affairs Office organises its own international volunteer service team, inviting experienced international volunteers to serve as team leaders to guide students. Through this process, students develop the ability to work in teams, learn to organise, plan, practice, lead, solve problems and seek support. A variety of thematic lesson plans are planned to help students improve their international perspective, health education and language skills, and group activities such as music, fun science, handicrafts and drawing are prepared for students to enjoy together.

Academic Year	Project Name / Service Periods	Service Locations	Number of volunteer	Number of people served
105	Share YunTai : Love Wanderland 2017/08/02-2017/08/14	Star Home Nursery at Ban Hin Taek, Thailand	9	24
106	The Dragon in the Sky - Dancing with the Clouds - Love YunThai 2018/07/27-2018/08/13	Star Home Nursery at Ban Hin Taek, Thailand Huilong Chinese School (Chiang Rai, Thailand)	11	724
107	Undaunted by the remoteness of Thailand, the clouds are full of stars 2019/7/23~2019/8/10	Star Home Nursery at Ban Hin Taek, Thailand Huilong Chinese School (Chiang Rai, Thailand)	13	728

### Service Unit conducted a group recreation activity with students



### Health Education Activities

The Health Education Unit of the Academic Affairs Office provides a comprehensive life education mechanism, organising health education activities to improve or enhance health and well-being; from encouraging teachers and students to roll up their sleeves and donate blood to save lives, promoting the learning of CPR+AED basic life-saving techniques among freshmen, training staff, laboratory and club officers to obtain the R.O.C. Red Cross Junior First Aid Certificate, to assisting and guiding students of the Cloud Heart Ambulance Club to administer first aid in rural primary schools. The camp team has been rooted in the promotion of emergency and life education. Each year, this university expects to conduct CPR+AED training for freshmen, 4 blood donation activities, 4 first aid training sessions, and 1 first aid camp for rural primary schools in the summer and winter.



### Health Education Activity Outcomes for 2019

1. 1,499 students participated in the CPR+AED course, with a 99% pass rate of 1,483 students obtaining their certificates.
2. 2 first aid camps were held for 50 students and teachers, with a 100% pass rate of 50 first aiders (only 2 camps were held due to insufficient applicants).
3. 4 blood donation events were held, with 567 students and teachers joining in and donating 720 bags of blood to save lives.
4. During the winter holidays, a first aid camp for primary school students was held at Fuxing Elementary School in Yunlin County, with a total of 21 primary school children learning about first aid safety. During the summer holidays, a first aid camp was held at the Datong Elementary School in Yunlin County, where 40 primary schools children learnt about first aid.

The first two pictures are basic first aid training



Fuxing Primary School First Aid Camp



In order to take good care of the health of all students and teachers, the Health Education Section has signed contractual agreements with nearby medical institutions. 61 hospitals have been signed in the 105-107 academic year, providing discounted registration fees and free medical consultation services to provide comprehensive medical care. In addition, health promotion programmes and tobacco prevention activities are held every year to meet the health needs of all students and teachers.

Academic Year	Events	EvenAttendancets
105	50	11,420
106	81	5,170
107	126	16,799

### Creating a 'therapeutic' campus for the heart and soul

It is also important for YunTech to nurture students to be able to face the challenges of life with a more adaptive perspective, to manage their life goals and to develop a sense of connection with the community. The Counseling Center has turned a previously unused part of the campus into a healing environment called the "Healing Garden", with seven areas for teachers and students to relax, including the "Talking Heart Area", "Appreciating the Sky Area", "Passing on Blessings Area", "Saying Goodbye to Loss Area", "Saying Thanks to Yourself Area", "Happy Bank Area" and "Passing on Love Area". The Counselling Centre organises regular life education programmes in the Healing Garden to foster a harmonious relationship between young students and themselves, others and nature, and to foster a sense of belonging between people and others, as well as to achieve self-acceptance and self-affirmation.

### Life Education Thematic Counselling Activities

The concept of life education encompasses the four relationships between human beings and themselves, others, the environment and the universe, and is a holistic and sustainable concept of life development. Therefore, YunTech hopes to gradually cultivate positive attitudes towards life and ignite optimism and vitality among teachers and students. In order to achieve the goal of holistic education and lifelong learning, the Counselling Centre plans life edu

cation activities every year and invites teachers and students to participate in a variety of creative activities. For example, the "Pastel Stress Relief" helps students learn skills to cope with setbacks; the " A Heart to Heart, A Blessing to Last " blessing activity accompanies students through the examination period and makes them feel more confident when they have the support to face adversities together; the "Experience the Healing Garden" invites students and teachers to experience ordinary but beautiful moments in their lives during a visit to the garden; the "Little Bonsai Experience" is a simple plant care activity to strengthen teachers' and students' sense of hope and enthusiasm, with the aim of developing a deeper outlook on life and internalising values, and cultivating the ability to integrate knowledge, emotions, thoughts and actions, as well as developing multiple wisdoms and potentials.<sup>8</sup>

Academic Year	Project Title	Attendance
106	Light clouds and breeze - so therapeutic!	164
107	Meeting You at the Healing Garden	182

## Special Education and Life Education

To implement the concept of a friendly school environment and to ensure a non-discriminatory, equitable and high-quality education, the Counseling Centre has been promoting school-wide awareness to help students with physical and mental disabilities to adapt to this university and establish a friendly school environment, and to promote the acceptance and care of special education.

Through specially designed and arranged activities, and in collaboration with various social welfare organisations for the physically and mentally challenged, and in conjunction with the special education student category, all staff, parents, students and even members of the community will be able to understand the nature of special education students, avoiding special labelling, so that they can be accepted and cared for. In addition, it helps special education students to be spontaneous and courageous in fulfilling their dreams from their own perspective. The Dreamers start with the preparation of the programme and learn by doing, one step at a time. Through the implementation of the project, the Dreamers find the connection between themselves and society, develop their own vision of society, and see that they also have the power to influence society, encouraging more students with physical and mental disabilities to join the ranks of courageous dream builders. This is part of YunTech's ongoing efforts to build a friendly campus and social environment for the physically and mentally challenged, starting from the campus

## Number of talks on special education and the Dream Project from 106 to 108 academic years



## Photos of Life Education activities



## 4-4 Environmental Sustainable Education Effectiveness

### Three First- and Second-Class Units of Environmentally Sustainable Education Performance



Department of Safety Health and Environmental Engineering



Research Center for Soil & Water Resources and Natural Disaster Prevention



Research Center of Industrial Pollution Prevention

YunTech's environmental sustainability education units include the Department of Safety Health and Environmental Engineering, Research Center for Soil & Water Resources and Natural Disaster Prevention, Research Center of Industrial Pollution Prevention, and the center for Sustainability and Social Practice, which are responsible for nurturing professionals, providing environmental sustainability education and assisting the government and the community with soil and water conservation, disaster and pollution-related teaching, testing and prevention services.



16

Full-time teachers



237

Undergraduate students



135

Postgraduate students



4

Teaching laboratories



15

Specialist research laboratories

The Department of Safety Health and Environmental Engineering was established in 1992 and currently has a university division, a master's programme, a master's in-service programme and a doctoral programme. The Department's current full-time faculty members have many years of practical experience and enthusiasm for their work, and have recruited part-time faculty members with extensive practical experience to develop the Department's diverse and international character. Its educational objectives are to equip students with basic mathematical and engineering skills, to meet the needs of the industry and to develop a spirit of care for the environment and continuous lifelong learning. The Department has been accredited by the Ministry of Education as a first-class professional department of the National University of Science and Technology, the the International Institute of Engineering and Technology Education (IEET) and is recognised by the international engineering education community. The programme emphasises both theoretical and practical training, and to emphasise practical training to help students obtain professional qualifications, regular training courses on environmental and safety qualifications are organised to enhance students' employability through both theoretical and practical training.

The Department of Safety Health and Environmental Engineering emphasises the development of students' practical skills, with an emphasis on practical projects and design practice, and offers a variety of laboratories, including four teaching laboratories and 15 specialist research laboratories. At the same time, this University has established the Environmental Incident Response Advisory Centre, Research Center for Soil & Water Resources and Natural Disaster Prevention, Center for Process Safety and Industrial Disaster Prevention, Sustainable Development and Green Technology Research Center and Green Technology Research Center", "Clean Greensustainable Innovation Research Center" and "Air Quality Model Support Center" established by the Environmental Protection Administration of the Executive Yuan, all of which have faculty members from the Environmental Safety Department as key members. This center has achieved a lot of success in strengthening students' practical experience through training in relevant industry-academia projects. In the future, this center will continue to develop internationally and in line with government and industry policies to train students to become senior technical personnel in the fields of environmental engineering, safety and health, disaster prevention, and green environmental resources.

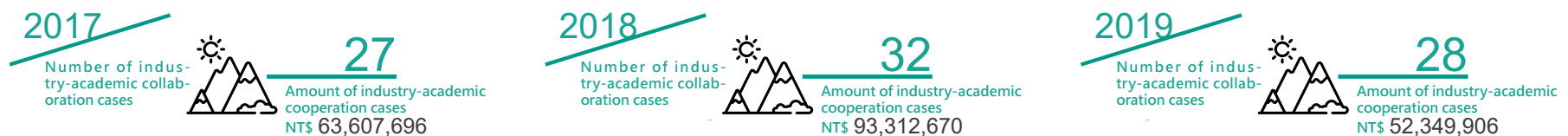


## Research Center for Soil & Water Resources and Natural Disaster Prevention

The objectives of this center are to assist local and central governments in planning the investigation, analysis and conservation of soil and water resources, to establish and promote soil and water resources and disaster prevention and control systems, and to actively provide the international community with research and development results related to soil and water resources and disaster prevention and control, to assist in the establishment of international mechanisms and systems related to soil and water resources and disaster prevention and control, and to participate in transnational soil and water resources conservation and natural and human-caused disaster prevention and control work.

This center's areas of expertise include ground subsidence prevention, regional water resources deployment and survey planning, emerging water resources development, environmental monitoring and research, and pollution investigation and prevention. Under the guidance and research of our faculty members, this center has received an average of 29 industry-academia collaborations in the past three years, and have received approximately NT\$70 million in industry-academia collaborations.

### Research Center for Soil & Water Resources and Natural Disaster Prevention Statistics on Industry-Academia Collaborations Awarded from 2017 to 2019

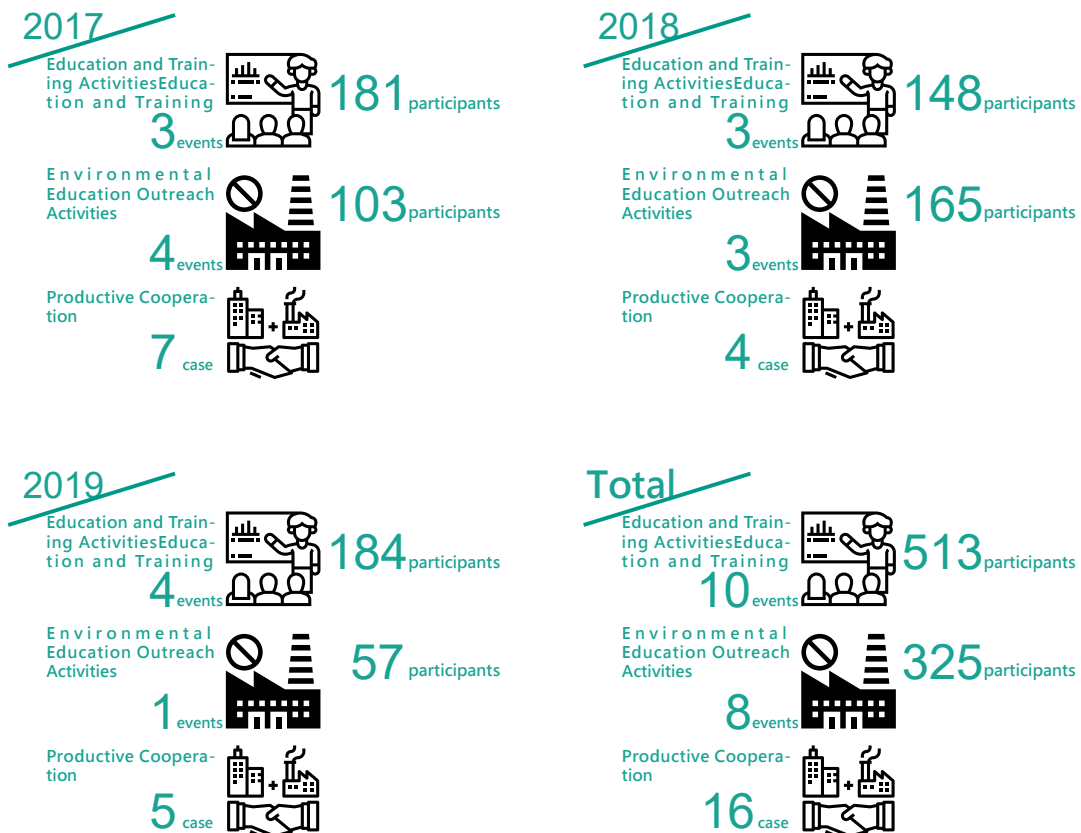


## Research Center of Industrial Pollution Prevention

The Research Center of Industrial Pollution Prevention was established in response to the national policy of giving equal importance to economic development and environmental protection, and to actively promote cooperation in education, industrial testing and manpower training related to the prevention of industrial pollution. The aim of this center is to integrate this university's faculty and facilities in the fields of environmental protection and pollution prevention, and to actively engage in research and development in the fields of water resources, wastewater pollution and prevention, air pollution and prevention, noise and vibration, toxic substances treatment technology consultation, and waste pollution and prevention. Through industry-academia collaboration, this university is expanding research and human resources and technology exchanges with public and private pollution prevention research institutions in Taiwan and abroad, with the aim of utilizing YunTech's software and hardware resources, such as faculty and equipment, to enhance pollution prevention technology and expand research and development results in Taiwan, so as to move towards the goal of pollution prevention that takes into account both industrial development and environmental protection.

In recent years, this Centre has been involved in projects and research related to environmental protection and pollution prevention for the government and the industry. This center also helps to promote environmental education activities, such as lectures on environmental issues, introduction of energy-saving equipment and products, and environmental DIY courses, to educate students and the public to explore and consider the importance of environmental protection.

## Number of collaborations and events held by the Industrial Pollution Prevention and Control Research Centre from 2017 to 2019



## 4-5 Academic Research Results



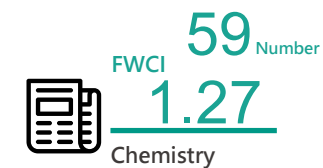
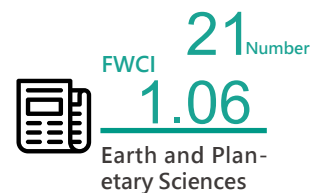
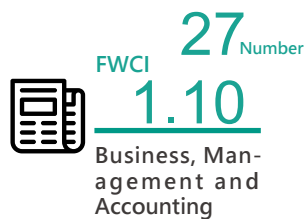
Knowledge is the greatest power to change the world, and academic research is the fundamental origin of knowledge. YunTech expects to increase sustainability with the power of knowledge, encouraging our teachers to dedicate to academic researches and publish their findings. We have set up rewards to encourage teachers to proactively publish papers and excellent scholarly journals, improving the academic study climate. We have also established Key Points on the Flexible Wage System and many incentives, such as Academic Research Merit Award, distinguished professor of Fengtay, part-time professor of YunTech, distinguished professor of YunTech and so on, so as to attract and retain outstanding talents in academic research.



\* Quote from Scopus database and Web of Science ( WOS ) database

In 2019, YunTech's impact of paper publication has exceeded the global average in six major fields (FWCI > 1). FWCI refers to Field Weighted Citation Impact. If a paper's FWCI is higher than 1, that means its citations in others are above the world average level.

### Research Fields Where YunTech's Impact of Paper Publication Exceeds the Global Average



\* Quote from Scopus database



To promote the sustainability, YunTech has published a total of 16 academic papers from 2017 to 2019 to echo 17 United Nations Sustainable Development Goals (SDGs). Among them, more papers have been published in the fields related to SDG3 (Good Health and Wellbeing) and SDG7 (Affordable and Clean Energy). And our impact surpasses the global average in SDG6 (Clean Water and Sanitation), SDG8 (Decent Work and Economic Growth), SDG9 (Industry, Innovation and Infrastructure) and SDG12 (Sustainable Consumption and Production).



\* Quote from Scopus database

## 4-6 Industry-Academia Cooperation Results

### Industry-Government-Academia Collaboration



Total number: **932**  
Total amount:  
NT\$1,217,230,000

### Plans of collaboration between public-operated or private industry and academia



Total number: **578**  
Total amount:  
NT\$491,160,000

### technology transfer



Total number: **83**  
Total amount:  
NT\$11,030,000

## Industry-Government-Academia Collaboration Results

It is YunTech's vision, objective and development strategy to store up energy of application-oriented research, wield local, industrial, social and global influence, build a mechanism combining research outputs and start-ups, as well as solve local, industrial, social and global problems through education and R&D resources. To achieve that, we have adopted an array of measures, such as Key Points on the Flexible Wage System, industry-academia cooperation rewards, Industry-Academia Cooperation Merit Award, patent subsidy application, patent excitation assistance and so on. By doing so, we hope to attract and retain outstanding talents in industry-academia research, improve the application of knowledge, achieve our goal of solving local, industrial, social and global problems through education and R&D resources, making contributions to sustainability in economy, environment and society.

## 2017-2019 Industry-Government-Academia Collaboration Statistics



Ministry of Science and Technology

Number **166**  
Amount 12,323  
(million NT dollars)

Subsidy cases

Number **144**  
Amount 43,900  
(million NT dollars)

Public or Private Industry-Academic Collaboration

Number **461**  
Amount 46,313  
(million NT dollars)

Total

Number **771**  
Amount 102,536  
(million NT dollars)



Ministry of Science and Technology

Number **168**  
Amount 13,688  
(million NT dollars)

Subsidy cases

Number **144**  
Amount 49,414  
(million NT dollars)

Public or Private Industry-Academic Collaboration

Number **526**  
Amount 65,992  
(million NT dollars)

Total

Number **838**  
Amount 129,094  
(million NT dollars)



Ministry of Science and Technology

Number **200**  
Amount 17,492  
(million NT dollars)

Subsidy cases

Number **154**  
Amount 55,115  
(million NT dollars)

Public or Private Industry-Academic Collaboration

Number **578**  
Amount 49,116  
(million NT dollars)

Total

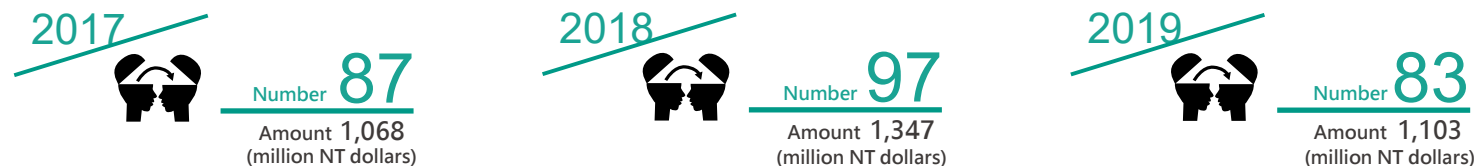
Number **932**  
Amount 121,723  
(million NT dollars)

## Technology Transfer Results

YunTech handles technical energy patents and reviews technological talents on regular basis, and cooperates with various research service centers, strategic alliance partners and local industrial resources. We act in specific ways, such as expert consultation, technical training, functional improvement or business counseling, and providing legal and marketing services. By taking all these measures, YunTech helps industries bridge technological gap and increase added value. It boosts creative management mechanism of technology transfer and diffusion, assists teachers and students in innovative research and technology transfer, so as to spread knowledge, add its value and make it useful to society. Therefore, it contributes a lot to job creation and economic growth.

Due to our location, manufacturers nearby are mostly small and medium-sized businesses that have smaller operating scale and relatively less desire or demand for technological transfer. In order to effectively improve technology transfer performance, YunTech actively visits enterprise sites and participates industrial park fellowship, as a way of seeking industry-academic collaboration opportunity. Besides, we also strengthen the development of technology commercialization and elevate research quality and quantity, thus attracting more manufacturers and provide valuable technologies. With the powerful collaboration of YunTech' s incubation center, the Office of industry academia cooperation and Office of Research and Development, we transfer by authorization the technologies developed by academic research, promote business technology of local manufacturers, drive the economic growth of local industries, and fully fulfill our social responsibility and mission to industries in central-south of Taiwan.

### The Signing Number and Amount of Technology Transfer in 2017-2019



## 4-7 Chain Counseling System

### Psychological Counseling



In 2019, YunTech has won Excellent Model in Public and Private College Students Counseling Work Evaluation 2018 awarded by Ministry of Education and good university evaluated by Taiwan Counseling and Consultation Society.

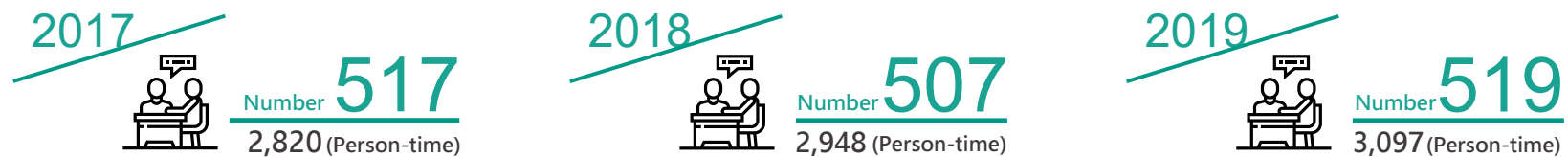
### Establish School Mental Health Education Promotion and Counseling System

The main purpose of establishing the Counseling Center is to protect and improve the mental health of both students and faculty, to help students understand themselves, to solve their psychological distress caused by daily life, study and career development, to give full play to individual potential, to pursue self-realization, and to provide mental health counseling services. For example, intervention and treatment counselings, focusing on individuals stricken with higher levels of distress, provide individualized counseling services and timely cooperate with the community and medical resources to help them recover and get back on track. While developmental counseling, aiming at general teachers and students in school, provides group mental health perception services to strengthen their living, thinking and problem-solving abilities in an all-round way. The Counseling Center carries out mental health activities on campus to help students develop life coping ability, focusing on common issues such as gender, interpersonal relationship, career and emotions.

## Establish Electronization Individualized Counseling Service System

YunTech provides full-time electronization case management and psychological consultation booking services. Through the online reservation system, our staff and students can make an appointment for counseling, consult and search relevant information at any time and any place. With the convenience of World Wide Web and the data storage function of a database system, we establish an online consultation booking and case management system, and offer interview, telephone, E-mail and other services, which improves and perfects our counseling work. After receiving student's application for individual counseling, the Counseling Center will conduct follow-up contact and care and arrange individual counseling. According to the counseling feedback form during the last semester, the overall satisfaction of the counselors stands at 4.7 points (full mark is 5 points). In recent years, counseling topic analysis shows that interpersonal relationship, self-understanding, personality and emotion relationship are the main types of perplexities for our students. To this end, the Counseling Center will plan the theme counseling activities for the new academic year according to students' major mental problems, and accompany them through the tough times through multiple channels.

### Number and Person-time of Individual Counseling Services Receiving in 2017-2019

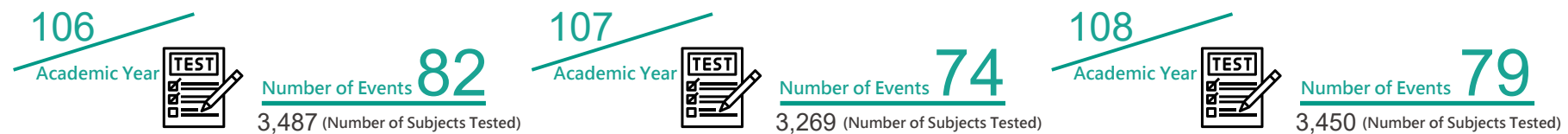




## Highly Caring Students Screening Mechanism - 「Emotion Monitor」 Activity

In order to establish a screening system for high-care cases, the “Emotion Monitor”, a high-care group screening program for freshman, is implemented one by one in the form of class discussion by full-time, part-time and intern psychologists at the beginning of each semester after freshmen enter the university (for junior students, about one to two months from the beginning of the next semester). It has to be implemented under the premise of obtaining the consent right after the knowledge of the due parties, so as to find out the cases that need follow-up care and counseling. Then, the psychologists of each college will build the database in the counseling system, and contact with them through telephone to provide care and invite them to participate in individual or group counseling, workshops and other activities. Actually class discussion contains not only psychological intervention, but also mental health education, thus contributing to students’ psychological development. For example, we offer interpersonal relationship and communication education to freshmen, and career exploration and planning education to junior students. At the same time, we also work with our tutors to continuously track and care for these cases. We hope to help students develop effective environmental resilience through our close counseling network.

### The Number of Events and Subjects Tested in “Emotion Monitor” during 106 to 108 Academic Year



## Set up Teacher Counseling Community, Strengthen Teacher Counseling Knowledge and Ability

In order to strengthen the knowledge and ability of teachers in life counseling, the Counseling Center calls for the establishment of a cross-department knowledge&ability community of counselors inside school which unleashes teachers' enthusiasm and energy in counseling. Meanwhile, a cooperation mechanism between teachers and professional counselors has been built to jointly assist students in learning and adaptation and promote their mental health. Currently, we have communities with "interpersonal", "emotion" and "career" as counseling issues. The teachers in charge take the initiative to plan various ability-enhancing activities for their peers, and cooperate with the Counseling Center to help them strengthen their counseling knowledge and ability. In 2019, there were 3 sessions held altogether in which a total of 19 teachers have participated.

## Study Counseling

Our students mostly come from higher vocational schools or technical colleges, and some of them have relatively poor academic performance in middle school, which are due to their lack of basic learning ability, motivation and initiative, as well as failure to fully grasp key learning strategies and skills. However, this does not mean that students from technical vocational colleges are less qualified. Given guidance and assistance, they still have the opportunity to develop their potential. Moreover, as modern society has dramatically changed, disadvantaged students need stronger support from schools to help them keep a foothold in the society. Also, any students should not be abandoned. YunTech expects that through the study counseling network, students will gain better support.

## Intervention Counseling for Students

Each semester, the Center for Excellence in Learning and Teaching distributes the pre-warning student materials to the class mentor, who will conduct a study tutorial interview with the student. After receiving the interview record, we send the list of those who need further counseling to the Counseling Center. Later, the psychologist will offer to contact and care, understand the student's academic performance and adaptation in all aspects, and provide them telephone, letter care consultation or consultation assistance according to their needs.

## Tuition Measures

Through school affairs research and analysis, compulsory and optional courses with the attendance of more than 40 students and a failure rate of over 20% have been screened out. In order to help students improve their academic performance, a precautionary learning warning mechanism has been established to tutor TA in regular classes in advance. Taking the 108 academic year as an example, the learning outcomes can be improved by active tuition in regular classes, with the highest drop of failure rate standing at 21.62% (5.09% higher than that in 107). At the same time, it also avoids the problem that students' motivation of learning is weakened or even evaporated due to the tight midterm warning time. About 1,470 students have been benefited, and their learning efficiency has successfully improved.

## Counseling for International Students

As to the care for international students (including the students of the Straits Specialty Program), the Office of International Affairs invites their mentors to arrange an interview with them before and after the midterm examination each semester, and requires the mentors to take care of them timely at ordinary times. Thus, we can find out if there are any difficulties or inadaptations in their study or daily life, and offer them timely assistance and suggestions. In addition, we recruit among students study partners for whom we also provide training courses every semester. We match at least one partner who comes from the same country for all international students, so as to reduce culture shock, create a friendly campus environment and enhance the cross-cultural communication among our students. The Counseling Center introduces its resources at the orientation meeting for international students at the beginning of each semester, and provides individual or group counseling, class discussion and other services during the semester, so as to help international students adapt to their study life in Taiwan as soon as possible.

## Counseling for Dropouts and Students Who Suspend Schooling

The Counseling Center provides care to students when they handle the formalities of quitting school, understands their conditions through counseling, and accompanies them through the decision-making process with empathy. In addition to sorting out the students' feelings of withdrawal, we also provide relevant resources inside and outside the school based on the specific reasons, such as emergency aid, application for tuition resources, rights of pregnant students to attend school, as well as informing them of our counseling services and other related rights and interests. We expect that these measures at both mental level and material level as well as rich resources can help students effectively. Meanwhile, the reasons for their dropout and suspension of schooling which are understood through the process of dropout counseling can be used as reference for future counseling measures.

## English Remedial Teaching

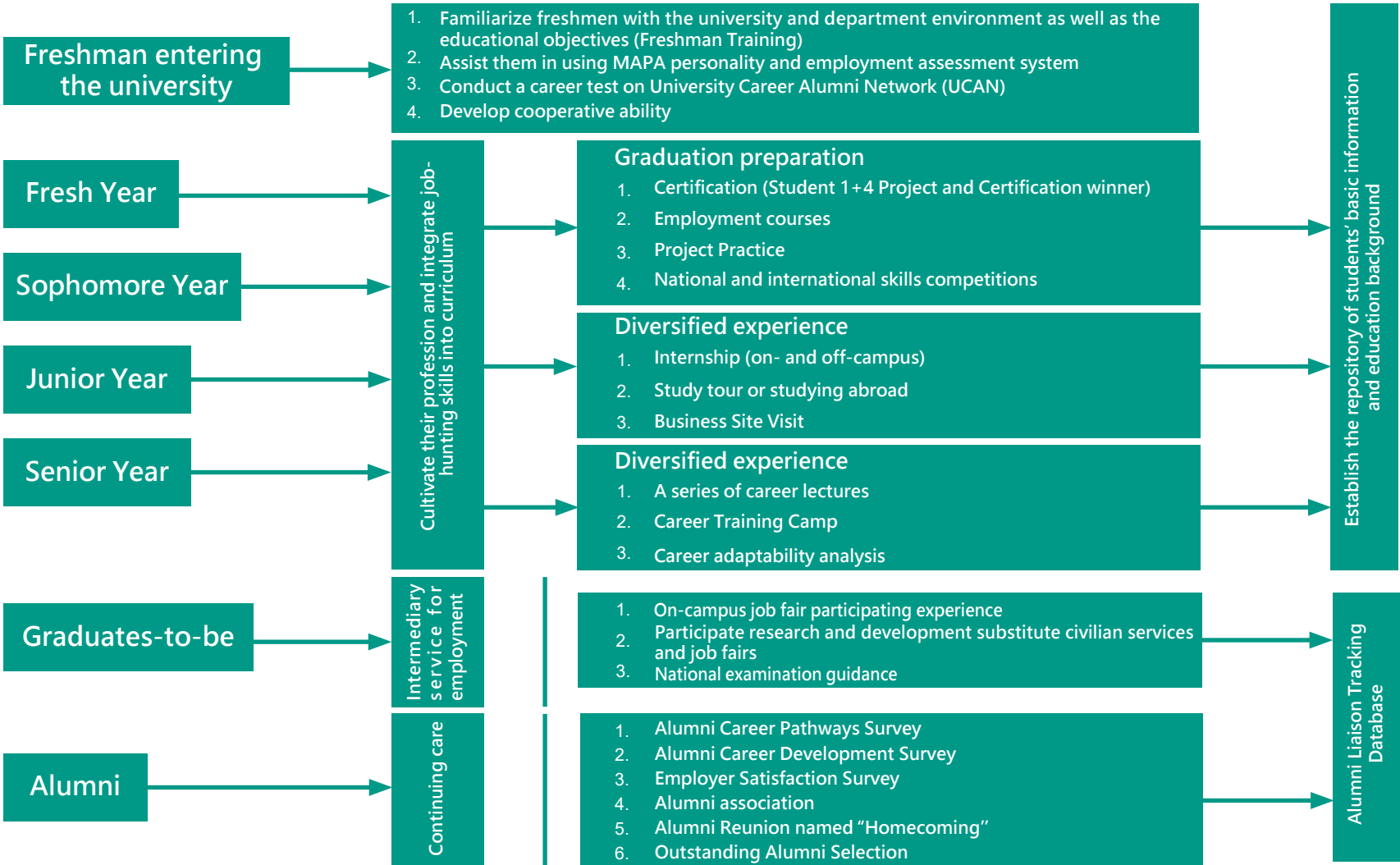
The Department of Applied Foreign Languages and the Language Center provide remedial English teaching in small classes so that students with poor English skills can regain their learning confidence and catch up with other students. The English remedial course carries out the pre-test for the participants to find out the students' English level, then design and open the remedial course. At the end of the course, a post-test is conducted to evaluate the students' improvement. The students who reach the standard of progress are arranged to participate in the self-study program, and those who fail to meet the standard continue to attend the English remedial course.

## Career Counseling

YunTech's student employment counseling mainly focuses on strengthening students' employability, creative thinking and cross-field knowledge and ability. We use the MAPA personality and employment assessment system to help students understand their career interests. As a reference for career choice, the vocational interest exploration and functional diagnosis of University Career Alumni Network (UCAN) has also been promoted. The response rate of UCAN was 71.75% in 2019. In addition, it holds relevant lectures and activities to help students learn about the job market as early as possible and make them more competitive in the workplace.

The Academic Year	The Number of Enterprises Participating the Job Fair on Campus	The Number of Events Related to Career Counseling
105	109	33
106	101	38
107	115	60

In order to improve the career counseling system for graduates, there are differentiated measures from freshman's entrance to graduation. The career counseling process is as follows





## Student internship

In order to cultivate students' ability to integrate practice and theory, we provide internship programs to help them understand the enterprise workplace culture and establish professional ethics awareness. In addition, we stipulate that undergraduates must complete a minimum of 320 hours of industrial practice prior to graduation, which is defined as the graduation threshold. In the academic year of 107, the number of interns reached 957, with that of cooperative enterprises standing at 405.

### Pre-internship



Students are able to know about various job content through internship institute evaluation, the pre-internship orientation meeting, relevant lectures and so on.

### Internship



The achievements of internship objectives and performance are ensured through internship counseling visit, report review and other means.

### Post-internship



The students' internship performance is evaluated based on publication of internship results, assessment, etc., and regarded as the basis of follow-up evaluation.

## Organize A Series of Career-themed Activities of Professional Knowledge

According to the statistical analysis results of the counseling services over the past three years, self-understanding is the second most frequent topic, including sense of self-worth, seeking life meaning, self-identity and so on. During the interview process, we often found that counselees' uncertainty about their self-concept and self-identity will affect the understanding of their own strengths and weaknesses. Consequently, they feel difficult to establish career direction and are often at a loss in career choice. Throughout the semester, the Counseling Center sometimes received students with learning difficulties introduced by teachers and parents. We found that when students feel puzzled about their career and are not clear about their future goals, it is easy to reflect on their learning motivation. As a result, they show unstable class attendance, unhealthy study motives and so on.

In terms of activity organization, the Counseling Center cooperates with other departments to hold various activities, such as lectures, experience-based workshops, reading circles, film appreciation, etc., so as to focus on our students' life and career counseling needs, connect the study, life and career counseling, and provide systematic cooperation and services.

Year	Program Name	The Number of Participants
2017	My New Life Philosophy W.D.E.P 2017/09/26-2018/06/27	3,644
2018	Youth Unlimited 2018/08/16-2018/11/30	2,348
2019	Inevitable-the Best in YunTech 2019/02/20-2019/12/25	4,456

In order to assist students in career planning, learning about further study channels or the job market, seminars are held every year to help students understand themselves and prepare for further study or early enter the workplace. In addition, we also actively apply to the off-campus units for various business promotion and assist students in build their career model through various activities.

## Student Appeal System

In order to protect students' legitimate rights and interests, strengthen the communication between teachers and students, establish campus ethics, and create a harmonious atmosphere, YunTech has set up a "Student Appeal Review Committee" to handle appeals from students, the Student Union and other student self-government organizations. If one considers the punishment, other measures or resolutions of the school to be illegal, improper or harm their rights and interests, they may appeal to the committee in accordance with the student appeal rules.

The Student Appeal Review Committee shall have 11 to 15 members, including 5 to 8 teachers' representatives appointed by the President, 3 to 4 representatives from legal, educational, psychological and other professional fields and 3 student representatives. Members of either gender shall account for more than one third of the total. The term is one academic year and reappointment is allowed. In the academic year of 107, there were a total of 3 appeals, all of which were related to students' scores, and they were handled in accordance with the appeal rules and related procedures, among which 2 cases were closed and 1 was withdrawn.

## System of Advice on School Affairs

According to the resolution of the School Council in the first semester of the academic year 106, the System of Advice on School Affairs was established by the Information Technology Services Center and came into force in the second semester of the year. The proposer shall be a faculty member, student and alumnus of YunTech. The authority unit shall process the reply within 5 working days and then upload it to the platform. The materials shall be collected and presented to the President on a monthly basis.

Put into operation in 2018, the system has received 73 suggestions about school affairs in 2019, increasing by 16.67%. The top four categories of advice in these two years were school environment safety and hygiene (22%), others (16%), general affairs (14%), as well as teaching and student learning (14%), all of which were closely related to the study and living environment of staff and students. Most of the undertakers have made improvements or explanations based on the content of advice. Although a few suggestions involving financial problems cannot be immediately refined, we have invited the internal units to discuss together and typically offered relevant supporting measures for improvement.

### The Number of Advice from Faculty and Students in 2018-2019





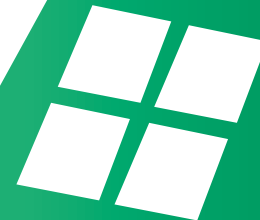




# 05 Environmental Protection Performance

## Major Issues

- Environment and ecological sustainability
- Energy management and saving measures
- Waste and drain water management
- Safety and health of campus environment





## Major issues management policy and included elements

### Major topics of sustainable development

Environment and ecological sustainability  
Energy management and saving measures  
Waste and drain water management  
Safety and health of campus environment

### Reasons behind the major topics

YunTech is committed to advancing green energy and green technology. It hopes to improve the utilization efficiency of resource and energy source, reduce the use and abandonment of toxic substance, and pay attention to the design of recycle and reuse while improving the effect of productive efficiency or optimize products, so as to reduce the environmental pollution load and improve the environment quality.

### Topics specified to GRI guidelines

302 energy, 403 occupational safety and health, 303 water, 306 drain water and waste, 307 laws and regulations on environmental protection

### Policies

According to the medium-term development plan 2019-2023, "the third strategy: using education and R&D resources to solve local, industrial, social and global problems "and "the fourth strategy: continuous

innovation and reform of school affairs" to cultivate environmental literacy of teachers and students, improve environmental action, reduce environmental impact and enhance health awareness of teachers and students, and reduce the risk of environmental facilities and teaching activities in the campus.

### Promises

- Implementing prevention of pollution and pollution reduction
- Promoting environmental education and advocacy
- Building a sustainable green campus
- Fostering friendly relation between school and its neighborhood
- Creating an atmosphere of safety and health
- Deepening the knowledge and ability of safety and health
- Reducing the risk of workplace hazards
- Implementing independent management and communication

### Goals and objectives

- **short-term:**  
Environmental indicators up to standard
- **medium-term:**  
No chemical leakage and accident exists; the treated drain water meets the standard of discharge water; no major occupational disaster of occupational safety and health happens; and the drain water recycle rate is increased by 1%.
- **long-term:**  
Campus sustainable management; green campus.

### Responsibility and system

- **External responsibility:**  
air pollution prevention and control law, water pollution prevention and control law, waste cleaning law, toxicity chemical substances management method, noise control law, greenhouse gas reduction and management law, occupational safety management method.
- **Internal system:**  
Safety and health work rules, safety and health management rules, waste classification and description, listing and management of toxic chemicals and their operation and management matters.

### Impact and risk assessment

- Abnormal climate factors and rising energy prices affect school financial costs
- Air pollution, drain water, waste, poison, noise and other factors affect the school image
- Environmental pollution caused by waste discarding
- Punishment for discharging water not conforming to environmental protection standards
- Occupational safety and health disaster
- There is no risk event from 2017 to 2019, and the existing protective measures shall be maintained

### Invest resources

- Waste treatment fee was 2,381,600 NTD

- The expenditure of green procurement was about 46.56 million NTD
- The maintenance cost of drain water treatment equipment was about 330,000 NTD
- About 1.36 million NTD was invested in fire protection, safety and health protection equipment
- The investment in education and training of occupational safety was about 70,000 NTD

### Grievance mechanism

- System of advice on school affairs
- Environmental and Safety Technology Center; (05) 5342601#2835

### Specific strategy / action

- Setting up drain water treatment equipment and special personnel; making regular maintenance; regular inspection for the quality of original drain water and discharge water
- Pushing the digital system of administrative work to reduce the use of paper; recycling of second-hand books and bicycles
- Declaring the operation of toxicity chemical substances and participating in the training of toxicity chemical substances joint prevention organization
- Replacement of old window type air conditioner
- Construction of photovoltaic power generation equipment
- Priority to purchase products with energy saving label
- Taking all year-round training, earthquake evacuation and compound disaster prevention and rescue drill, fire fighting training



## Major issues management policy and included elements

- Holding safety and health education and training every semester
- Holding The laboratory site inspection every school year
- Safety and health advocacy activities
- Disaster prevention measures
- Implementation of general rules for dangerous and harmful substances

### Output performance / evaluation mechanism

Comprehensive comparisons  
between the achievement of annual  
goals and the performance of previ-  
ous years

#### Achieved goals

- No violation of environmental regulations
- No security protection or threat attack event
- 100% compliance rate of regulations and management system requirements
- 100% improvement rate of missing inspection in laboratory
- 100% completion rate of occupational disaster investigation
- Power saving rate is 3.72%, increased by 2.13%  
The total energy consumption is 66539.28 joule, reduced by 1.45%
- Occupational safety and health education and training took place 11 times, an increase of 6 times

#### Unachieved target

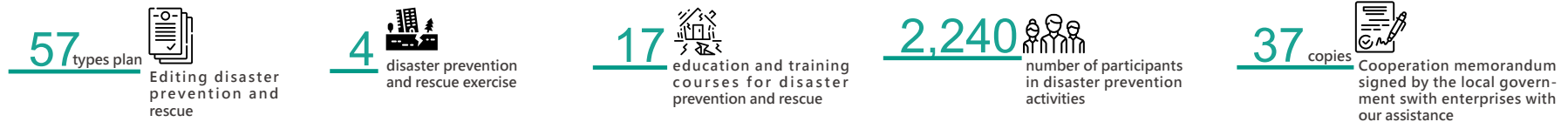
- The rate of drain water recycle is 50.63%, decreased by 4.37%

#### Improvement plan:

1. Recycle water pipeline may be damaged, resulting in the reduction of recycle water quantity. The Environmental Science Center has contacted the Office of General Affairs about the situation, and has drawn up a schedule to inspect the recycle water pipeline in 2020.
  2. Drain water is mainly used for irrigation. Due to the influence of weather, the demand will decrease and the recycle rate will decrease.
- The recovery rate of tap water is 33.6%, reduced by 0.4%

## 5-1 Response to Climate Change

Assisted Changhua County, Yunlin County, Chiayi County, and Chiayi City in regional disaster control and education in 2019.



General Education Center opened in 107 academic year



## TCFD climate change management (task force on climate related financial disclosures, TCFD recommendations report)

Among many risks, climate change is one of the most important. Adhering to the sustainable development policy, the university has established the "sustainable development and social practice research center" in 2018 to coordinate sustainable and other related businesses. In addition to formulating management policies for environmental issues, international organizations and government agencies are paying more and more attention to climate issues, gradually addressing potential climate related impacts, and defining the categories of climate related risks and opportunities.



- **Government:** It refers to the school's governance of climate related risks and opportunities
- **Strategy:** The actual and potential impacts of climate related risks and opportunities on our business, strategic and financial planning
- **Risk management:** Process of identifying, assessing and managing climate risk
- **Pointer and target:** Guidelines and objectives for assessing and managing climate related risks and opportunities

## Climate related risks

In response to the climate change policy, the university has formulated relevant risks and mechanisms

### 1. Transformation risk:

For example, the transformation of low-carbon economy needs a wide range of policy, law, technology and market changes. It may bring different degrees of financial burden and risks to the university.

### 2. Technical risks:

Supporting the economy to turn to low-carbon and high-efficiency technology improvement or innovation has a significant positive impact on the university. For example: YunTech has signed a contract with industries to rent idle roofs and constructed roof-type solar energy system with industry investment. The total capacity is expected to reach 1 million MWP with the annual power generation of about 1.3 million kwh, which is the largest installation capacity of a single school in domestic colleges and universities. We have made good use of university social responsibility (USR) to share technology and resources with the industries.

### 3. Market risk:

through changing the supply and demand structure of some goods, products and services, more and more climate related risks and opportunities will be considered by the school.

#### 4. Physical risk

The climate model can be immediate or long-term, which may have a financial impact on the school. For example: It would direct damage to assets and indirect impact caused by disruption of supply chain. The factors that may affect their financial performance include the availability and source of water resources, and the impact of extreme temperature changes on the safety of the school's premises, supply chain and faculties.

### Identification and Evaluation

In the blueprint of sustainable development of our university, we should continue to control the significant impact of climate change, considering climate related risks and opportunities and potential impacts under different conditions. Based on the above-mentioned SWOT, the "situational analysis" (qualitative and quantitative) is applied to identify and evaluate climate change issues.

#### Analysis of our advantages with situational analysis

Qualitative	Quantification
1. Relevant environment and climate courses have been set up to establish students' awareness of sustainability, climate and ecology.	Environmental courses - 37 courses in total Climate course - 1 course in total
2. A center was established for sustainable development	Sustainable development and social practice research center
3. A research center was established of sustainable, recycling and ecosystem	Clean-Green Sustainable Innovation Research Center, Renewable Energy Research Center, Mini Hydropower Equipment R&D and Application Research Center - three centers in total

Based on the above advantages, the university has been able to inform different organizations (centers) and stakeholders of the major issues of concern to the University through a variety of external outreach activities, including secondary public consultation (focus group interviews with supervisors' consensus camps, stakeholder questionnaires), industry interviews and visits. In view of this, the university also carries out specific implementation in various units, departments, centers, departments and campuses for climate and other related issues.

## Guidelines and objectives for managing climate related issues

The University's management mechanism for climate-related issues is based on the core of the GRI guidelines, the AA1000 Assurance Standard and the TCFD Recommendations Report, and is based on situational analysis to identify and assess and listen carefully to the voices of stakeholders. We are committed to fulfilling the university's social responsibility and disclosing the truth in terms of energy use (section 5-3), water use (section 5-3), etc. In this principle, the university implements decision-makings and forward-looking objectives management and action plans through situational analysis of the "futurability" of the issues.

In addition to the Center for Sustainable Development and Social Practice responsible for sustainable issues, the university also has the Science and Technology Research Center for Water and Soil Resources and Disaster Prevention, the General Education Center, and other colleges and departments that work together to fulfill the university social responsibility for sustainable development.

### ▲ Science and Technology Research Center for Water and Soil Resources and Disaster Prevention - operating the defense system, making early-warning of flood prevention and earthquake

We are currently assisting the governments of Changhua County, Yunlin County, Chiayi County and Chiayi City, etc. by analyzing potential disasters of regions with professional knowledges.

We are also involved in the preparation of disaster prevention and relief plans at the county and township levels by local governments or public offices. We also take part in

Disaster prevention and rescue exercises conducted by the governments.

1. Sound results have been made in guiding the governments of neighboring counties and cities.

Year	Region	Disaster prevention and rescue plan (types)	Disaster prevention and rescue exercise (times)	Education and training for disaster prevention and rescue course (times)	Participating in disaster prevention activity (people)
2017	Changhua County	27	1	5	669
	Yunlin County	21	1	5	105
	Chiayi County	0	0	0	0
	Chiayi City	0	1	6	40
2018	Changhua County	27	1	2	682
	Yunlin County	0	1	4	635
	Chiayi County	14	1	5	609
	Chiayi City	1	1	2	1,357
2019	Changhua County	27	1	4	500
	Yunlin County	21	1	3	860
	Chiayi County	6	1	7	840
	Chiayi City	3	1	3	40
Sum		147	11	46	6,337

2. Mechanism and procedure

The university has made good use of questionnaires, visits and meetings to assist local governments to sign MOUs with private businesses or organizations, and to assist governments to initiate MOUs in times of disasters. We have assisted local governments to sign 37 MOUs with businesses in 2019.

3. Working with government organizations for disaster integration, disaster level decision and preparation

We have completed the linkage between disaster warning platform and official websites of public departments of Changhua County, Yunlin County, Chiayi County and Chiayi City, which effectively provides disaster information analysis data such as typhoon or heavy rain, so that the public can obtain relevant information at the first time and effectively accelerate the response work.



### ▲ General Education Center - five dimensional general education courses foster students' sustainable consciousness

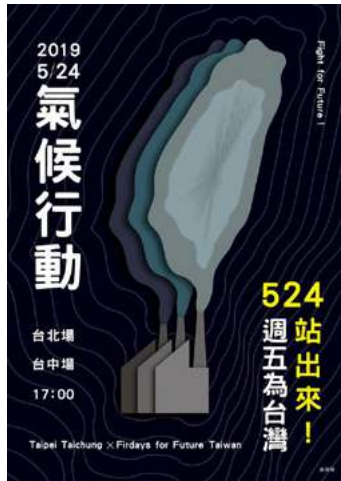
The university innovates general education in five dimensions of humanities, society, aesthetics, industry, and science and technology. In addition to responding to the global information evolution and community interaction and mode, it offers AI trend courses. It also integrates environmental education and green sustainable spirit into general education courses, such as environmental economy, life exploration and environmental care courses. Thus, students can understand green, sustainable, global climate change and other related issues, so as to establish the awareness and concept of sustainable development and green economy.

### ▲ Colleges, departments and institutes - starting environmental and ecological action in an all-round way

One aspect of YunTech's practice of USR is environmental and ecological action. In 2019, our school implemented four actions, two of which are related to climate.

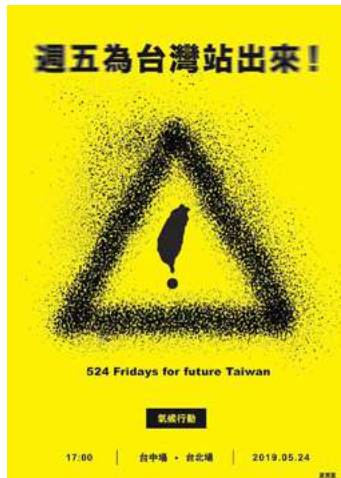
#### Action of air pollution prevention (College of Design)

Echoing Sweden's climate change girl Greta Thunberg's climate emergency and Fridays for Future action, the teachers of visual communication department led the students to Yunlin environmental and ecological site to understand the local environmental crisis, and called for Taiwan's Fridays for future action with field survey records to encourage students to pay attention to the local environmental crisis. It is also synchronized with international climate action. In the action, teachers and students designed the climate action placard and cool card together, and produced the promotion video to encourage people to stand up and participate in the first climate change parade and anti-air pollution parade in Taiwan in 2019. It is a course combining environmental image education with action together.



524 週五氣候行動  
台灣站出來

青年一起行動!  
All Stand Out!  
17:00 台北 台中



### Air quality detection and local environmental care (College of Engineering)

In the face of the recent deterioration of air quality in Taiwan and the increasing severity in Yunlin County, students were led by a faculty member from the College of Engineering to visit a micro-weather station set up in the Yunlin Industrial Park. Through this initiative, we provide individuals with simple air pollution prevention and detection technology, coupled with the integration of air filtration technology, to assist individuals in their daily lives and outdoor activities. It is a simple method of protection. Through this program, students will be able to focus on important environmental issues around them.



Off campus visit - Micro Weather Station of Yunlin Industrial Park

## 5-2 Green Campus



In 2019, it was awarded the "World Green University" competition

ranking **70<sup>th</sup>** in the world

ranking **5<sup>th</sup>** in Taiwan.



Four green buildings

**58** hectares School area

**46** hectares Green space

The evaluation included

setting and infrastructure **11<sup>th</sup>**

water resources **122<sup>th</sup>**

energy and climate change **145<sup>th</sup>**

transportation **60<sup>th</sup>**

waste treatment **99<sup>th</sup>**

education **197<sup>th</sup>**

## Five policies of campus environment



- Life-based environmental education
- Energy saving and carbon reduction
- Resource recycling
- Prevention and control of pollution
- Review and improvement of sustainability

There is a close interactive relationship between university campus and urban development, which will drive and change the surrounding environment, and connect with the local population, social culture, etc. The implementation of campus openness makes the campus community an inevitable development trend, and takes on the responsibility of social education and urban infrastructure. YunTech is building a sustainable green campus, promoting energy saving and carbon reduction. Now it is actively and continuously developing towards the vision of sustainable green university, using the beautiful environment characteristics of the school, integrating the concept of sustainable green, scientific and technological innovation, building the campus into a paradigm of water-saving, power-saving, green energy, energy-saving, sustainable campus, low carbon and smart school.

## Green building

Among the campus buildings, four buildings have obtained the Green Building Label, such as Management Hall 3, Design Hall 3, Engineering Hall 5 and the Industry-Academia-Research Building. Energy-saving building envelopes and heating and air conditioning are used to reduce the use of air conditioning, and air-cooling systems are set up based on the principle of natural ventilation so that the buildings can effectively use the dominant wind direction in summer.

Among them, the Industry-Academia-Research Building was awarded the diamond-level candidate green building certificate and the smart building certificate. The building is based on green building and introduces the application of intelligent high-tech technologies, materials and products to make the building safer, healthier, more convenient and comfortable, energy-saving, carbon-reducing and environmentally friendly, and also provides a field for internship and experience for cross-disciplinary programs such as "Green Technology Program" and "Clean Green sustainable Technology Program". It also serves as the best paradigm for the display and promotion of innovative achievements.



## The first container classroom in Taiwan -3R House

The design is based on the concepts of reduce, reuse and recycle. In terms of operation and maintenance management, teachers and students work together to provide clean and tidy environment services. The interior space of 3R classroom is spacious and bright, which can improve the dirty and smelly environment of traditional garbage dump in the past. There are special plans on ventilation and heat insulation, and guide teachers and students to complete garbage classification through various signs. The environmental protection monsters pasted on the external wall are elaborately drawn by the students of the Department of Visual Communication Design, showing the creative energy of the new generation of environment, and creating a high-quality campus garbage disposal and resource recycling field together. The completion and opening of 3R classroom can produce positive environmental education and learning impact, show the humanistic quality of the teachers and students of YunTech and the new appearance of the beautiful campus. It is also expected to become a new landmark with the most design and humanistic characteristic in the school.



## Reducing the use of disposable tableware

In order to promote waste reduction, energy saving and carbon reduction, protect the environment, and maintain the health of the staff, students and visitors, our school promotes the reduction of disposable tableware in the diet part, and incorporates the contract provisions when handling the outsourcing standard rent of the restaurant, and forbids or reduces disposable articles when providing the catering service. At present, there are three outsourcing restaurants, all of which provide repetitive tableware service.



## Green transportation

32 shifts  
  
 School buses  
 shifts / week

92 shifts  
  
 Off campus buses  
 shifts / day

6,320 sites  
  
 Bicycle parking  
 (2,212 square meters)

The annual carbon dioxide emissions of land transportation vehicles account for about 16% of the global carbon dioxide emissions. However, in terms of fuel costs, electric vehicles is one ninth of gasoline vehicles, one seventh of hybrid vehicles, and one thirteenth of diesel vehicles. Under this trend, the automobile industry is gradually transforming towards electric vehicles. In line with the mission of sustainable campus, YunTech adhere to the concept of cross domain cooperation, make engineering and design cross domain cooperation, in response to the global warming issue, which has caused serious changes in the earth's environment, coupled with the fermentation of energy security and sustainable development issues, countries all over the world pay more and more attention to energy saving and carbon reduction. It completed the design of electric prototype vehicle, setting the milestone of participating in green energy design and energy saving and carbon reduction. At present, one hybrid vehicle is used as a business vehicle in the school. The usage will be increased according to the future situation, so as to fulfill the responsibility of environmental protection.

The overall planning of YunTech campus is well-improved. In order to create a sustainable green, energy-saving and low-carbon environment and promote the use of bicycles and footpaths, a complete bicycle and walking system has been built. In addition, with the map of main roads and buildings installed in the campus, public transportation vehicles such as in school buses and out of school buses are provided for teachers and students. In order to improve the sustainable green transportation and increase the percentage of sustainable commuting, the school provides free transportation vehicles for teachers and students to pick up and drop off, and sets up bicycle lanes and footpaths for people to use. It also coordinates the local government and bus operators to set up bus service stations around the campus to improve the utilization rate of sustainable green transportation.

## 5-3 Energy Resource Management and Energy Saving Measures



YunTech's EUI is better than the government's average for 11 consecutive years

50.63%



Wastewater  
recovery rate

33.60%




Tap water  
recovery rate


YunTech is one of the eight schools sponsored by the Green University Alliance. Now it continues to develop towards the vision and goal of sustainable green university. It actively invests in energy saving and carbon reduction, promotes diversified


energy saving practices, improves the effect of energy saving through the introduction of high technology and green buildings. It constructs a green, low-carbon, safe and healthy campus with a friendly, beautiful, intelligent and creative environment. It has been developing towards a "green, low-carbon, friendly and beautiful campus". In recent years, the university has been subsidized by the Architecture and Building Research Institute of the Ministry of the Interior for three consecutive years. Combined with the school's self raised funds, it has carried out comprehensive functional integration for four aspects, namely "energy saving and carbon reduction, safety monitoring, intelligent transportation, health and comfort", so as to form an intelligent management and a high-quality campus environment with energy saving, comfort, convenience and safety.

### Energy resource management

In response to the government's renewable energy plan and to create a green, energy-saving and low-carbon environment, YunTech has comprehensively constructed a sustainable, clean and green campus, actively improved energy-saving facilities and equipment, built a overall campus power monitoring and energy-saving management system, and made use of the idle roof space of the school building to jointly promote the cause of energy conservation with the non-governmental cooperation. It can effectively activate the assets of the school and equip the top floor with the effect of heat insulation and cooling. It rents the roof platform of the North Campus to the manufacturer for building a solar photovoltaic power generation system with a capacity of 495.88 kwp. The solar system on the roof can effectively use the idle space and bring a fixed income. Its effect of heat insulation and cooling on the top floor and can reduce the power consumption of indoor air conditioning, save energy and electricity expenditure to achieve the vision of energy security, green economy and environmental sustainability.

2017  
 **491,120**  
 Solar power generation degree

2018  
 **472,480**  
 Solar power generation degree

2019  
 **488,320**  
 Solar power generation degree

In 2019, the total power consumption of the university is 17,386,900 kwh. Due to the obvious effect of the power improvement project over the years, the smart cloud management system can monitor the power consumption of the whole university in time to reduce unnecessary usage. Compared with last year, the power consumption is 672,200 kwh, with a growth rate of 3.72%, and the power consumption has decreased year by year recently. Energy use intensity (EUI) also showed a downward trend year by year.

#### Power consumption of the whole university from 2017 to 2019

Year	Electric quantity	Compared with the previous period		EUI value
		Energy saving	Power saving ratio %	
2017	18,280,800	104,000	0.57	67.43
2018	17,989,600	291,200	1.59	62.71
2019	17,386,900	672,200	3.72	60.52

### Smart campus

In order to achieve a sustainable and innovative smart campus, the Smart Campus Plan is proposed to enhance the safety of the daily life of all students and faculty and to build a high-quality learning/research environment. It plans to build four systems, namely, energy resource management system, safety monitoring system, health and comfort management system and intelligent transportation management system, in order to achieve energy saving and carbon reduction, comfortable and convenient, sustainable management of the campus. This plan will be built gradually over a four-year period, and will be adjusted to meet the needs and functions of the campus in order to make it more suitable for use by the university.

## Smart energy saving of in-class curriculum

Smart power saving system of in-class power supply (general classroom): from 2016 to 2018, a total of 167 in-class power supply systems (small air conditioner) were completed, of which 28 were incorporated into the lighting and fan control in 2017, and 139 were incorporated into the system control in 2019.

## Smart control of small air conditioner

Energy saving management and control of small air conditioner (non-classroom area): in 2016, we carried out the construction project of "sustainable smart community innovation demonstration project", completing 419 small (window-type, box-type and separated) air-conditioners intelligent energy-saving systems in some classrooms (including in-class power supply). The system was extended in 2017, with increased control volume of 600 sets (excluding in-class power supply). It completed 625 sets in 2018, and 185 sets in 2019. The system can be monitored according to the daily operation schedule, external air temperature, and contractual capacity unloading requirements. In the future, it will be adjusted and set according to the long-term monitoring data to improve the energy saving rate year by year without affecting the comfort of use.

## Water resources management in campus

Water resources, flood warning and outdoor air quality monitoring system in campus: In 2016, the university completed digital flow monitoring of inlet water meter and flooding early-warning systems in four low-lying areas; in 2017, it completed flooding monitoring in the library area; it will monitor water use in 11 buildings on the north campus and water use in 7 buildings on the south campus in 2018 and 2019. It will change some of the buildings' water lifting systems to intelligent scheduling control, using nighttime water replenishment to reduce daytime peak power consumption. The university will establish building water use information and provide long-term monitoring data for analysis to reduce water leakage.

## Campus power

Intelligent load management will be adopted to complete 31 substations throughout the campus. The high-voltage side of the electricity meter online project can monitor the real-time electricity consumption of each part of the campus, and carry out load management according to the capacity of the electricity contract to curb electricity expenses. These facilities can save energy and carbon, and gradually expand the capacity of intelligent monitoring of campus electricity consumption equipment in the future as a resource for unloading regulation, improving equipment utilization. Individual electricity saving plans will be made according to the electricity consumption situation of each department and building.

Through the management of energy resources and the implementation of relevant energy-saving measures, the energy consumption of YunTech is 64,476.49 GJ in 2019, reducing the energy usage by 3.10%. The total energy consumption has decreased year by year in recent three years, which shows that the energy management and energy saving and carbon reduction measures of YunTech have achieved good results.

Year	Primary energy		secondary energy		Renewable energy		Total energy consumption	
	Consumption (GJ)	Ratio%	Consumption (GJ)	Ratio%	Consumption (GJ)	Ratio%	Consumption (GJ)	Ratio%
2017	1,706.20	2.53	65,810.88	97.47	0.00	0.00	67,517.08	100.00
2018	1,776.72	2.67	64,762.56	97.33	0.00	0.00	66,539.28	100.00
2019	1,883.65	2.92	62,592.84	97.08	0.00	0.00	64,476.49	100.00

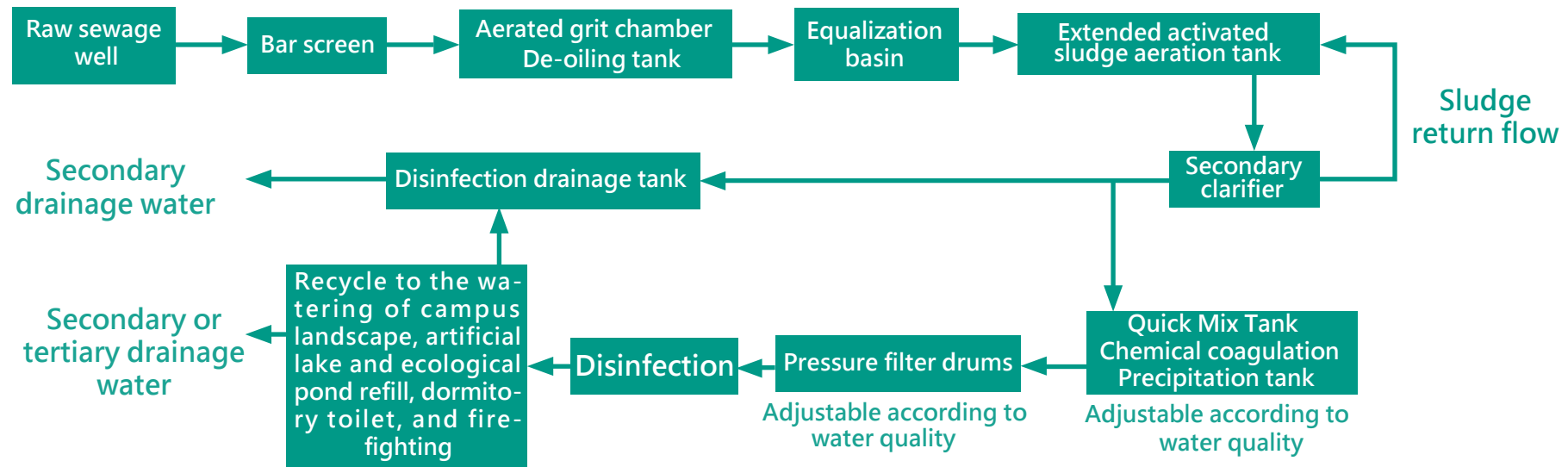
Primary energy: gasoline, diesel, gas / secondary energy: electricity / renewable energy: solar energy

Gasoline, diesel: calculation: total liter (L) \* calorific value (kcal / L) \* 4186

Electricity: 1 degree = 3,600,000 joules

## Sewage and recycled water treatment

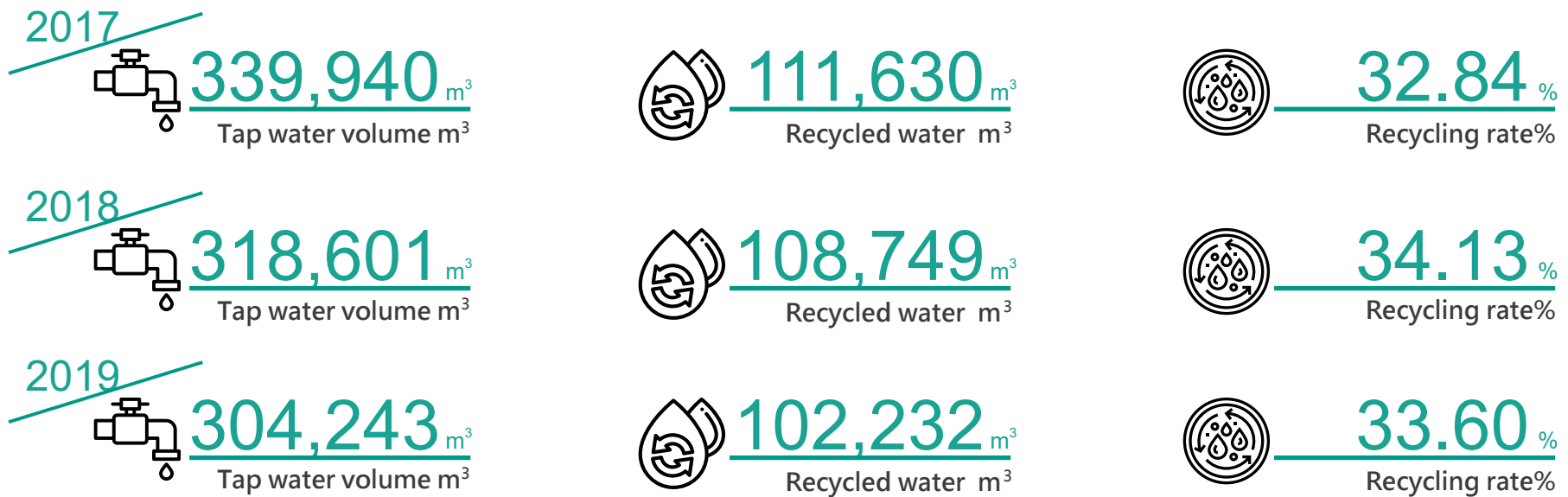
YunTech planned a sewage collection pipeline system and a sewage treatment plant at the early stage of its construction, and is the first campus in Taiwan to implement water recycling and reuse. The maximum daily treatment capacity is about 1500 tons. Biological extended aeration is used to treat the domestic sewage produced by teachers and students in the school, so that the water quality can meet the discharged water standard and be discharged to Basjoo River Basin. The water recycling system is planned for campus landscape, fountain, fire control, road moisturizing, hydrophilic facilities and watering plants and trees.





## Sewage and recycled water volume from 2017 to 2019

Year	Total sewage volume m <sup>3</sup>	Recycled water m <sup>3</sup>	Discharged water m <sup>3</sup>	Sewage recycling rate%
2017	210,037	111,630	98,407	53.15
2018	196,397	108,749	87,648	55.37
2019	201,933	102,232	95,008	50.63



## Water quality inspection 2017-2019

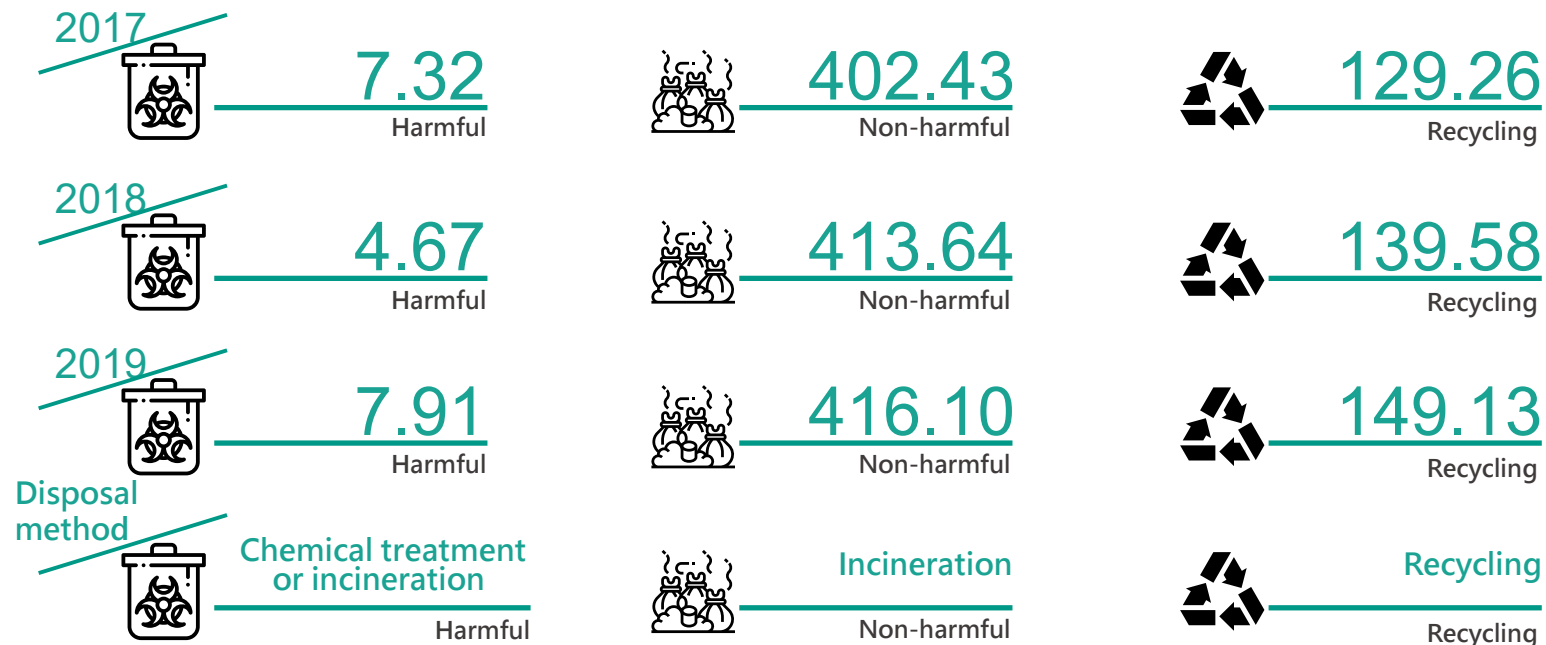
Inspection date	COD (mg/L)	BOD (mg/L)	SS (mg/L)	Inspection result
20170612	29.7	9.3	8.6	Up to standard
20171212	33.1	8.8	8.9	Up to standard
20180612	30.5	18.1	8.9	Up to standard
20181212	28.3	9.3	9.7	Up to standard
20190603	28.7	12.3	8.0	Up to standard
20191204	32.8	14.8	10.2	Up to standard

\* Standard of discharged water: COD < 100mg/L, BOD < 30mg/L, SS < 30mg/L

## Waste disposal

In order to effectively manage toxic chemicals and hazardous wastes, prevent environmental pollution and ensure the safety of faculties, YunTech properly classifies, stores and removes them according to regulations, so as to avoid environmental pollution or danger to teachers and students. The waste liquid of the school laboratory should be classified and stored according to the "Interim classification standard for laboratory waste liquid" issued by the Ministry of Education, and then be disposed by the legal waste removal and treatment organization.

### Total weight of waste in 2017-2019(tons)



## Reuse of dead assets

Adhere to the principle of energy saving and carbon reduction and resource reuse, we make the best use of objects' value. We have formulated and followed relevant mechanisms and procedures to facilitate the reuse of dead assets and endow them with innovative value. The property scrapped by YunTech shall be disposed of by selling, reusing, donating, exchanging, destroying or obsoleting. If the obsoleted equipment still has "use value", in order to avoid the waste of usable materials and achieve the reuse of eco-friendly value, it will be far more meaningful to handle the priceless gift transfer than "selling wastes and clearing up and discarding", so as to achieve the value of making the best use of environmental protection materials.

Year of donation	Equipment name	Company	number	Treatment method
2019	Personal computer with screen	Set	62	<ul style="list-style-type: none"> <li>Personal computers with screens and e-learning equipment were given to elementary and junior high schools in Yunlin County for continued use, bridging the information gap between rural and urban schools. The improvement of teaching equipment will facilitate the promotion of various activities and increase students' learning effectiveness.</li> <li>Sports equipment and equipment are donated to Yunlin county to actively promote physical education. However, the teaching equipment resources are not enough for schools to use, and for increasing students' interest in learning and enhance their physical fitness.</li> <li>Furniture and teaching and office equipment are donated to junior and primary schools in Yunlin county to enrich students' teaching facilities and teachers' office equipment, improving the effect of education, and cultivating students' virtue of cherishing and reusing material resources.</li> </ul>
	Track hurdle	Set	1	
	Frisbee rack	Set	3	
	Personal computer with screen	Set	20	
	Projector	Amount	1	
	TV stand	Amount	1	
	Personal computer with screen	Set	14	
	Personal computer with screen	Set	8	
	Bulletin board	Amount	4	
	Bulletin board	Amount	1	
	camera	Amount	2	
	Wooden table	Amount	1	
	Wooden chair	Amount	5	

## Garbage collection and effective utilization of resources

In order to effectively prevent environmental pollution, promote the correct concepts and habits of campus waste reduction, resource recycle and reuse, improve environmental quality, and implement campus environmental protection, our school has formulated "key points of waste reduction and recovery management", "key points of toxic chemicals and hazardous waste management", and adopted the garbage non-landing policy to strengthen garbage classification and recovery, so as to ensure proper treatment. The garbage recycle rate of our school in 2019 was 26.38%, an increase of 1.15%

## 5-4 Campus Safety and Health



No violation of environmental regulations in 2019

11 times



Education and training of safety and health for faculties

1,411 people



participants

## YunTech Safety and Health Policy

- Complying with laws and regulations → zero campus disaster goal
- Implementing education and training → improving disaster prevention and response capability
- Improving safety and health performance → maintaining the safety, health and pollution prevention of faculties and students

In order to ensure the safety and health of faculties and students in the laboratories, research laboratories, trial areas, practice workshops and other workplaces, and to prevent occupational disasters, the "YunTech safety and health management regulations" is formulated in accordance with the occupational safety and health management measures. The Occupational Safety and Health Committee and Environmental and Safety Technology Center are set up according to the regulations of occupational safety and health.

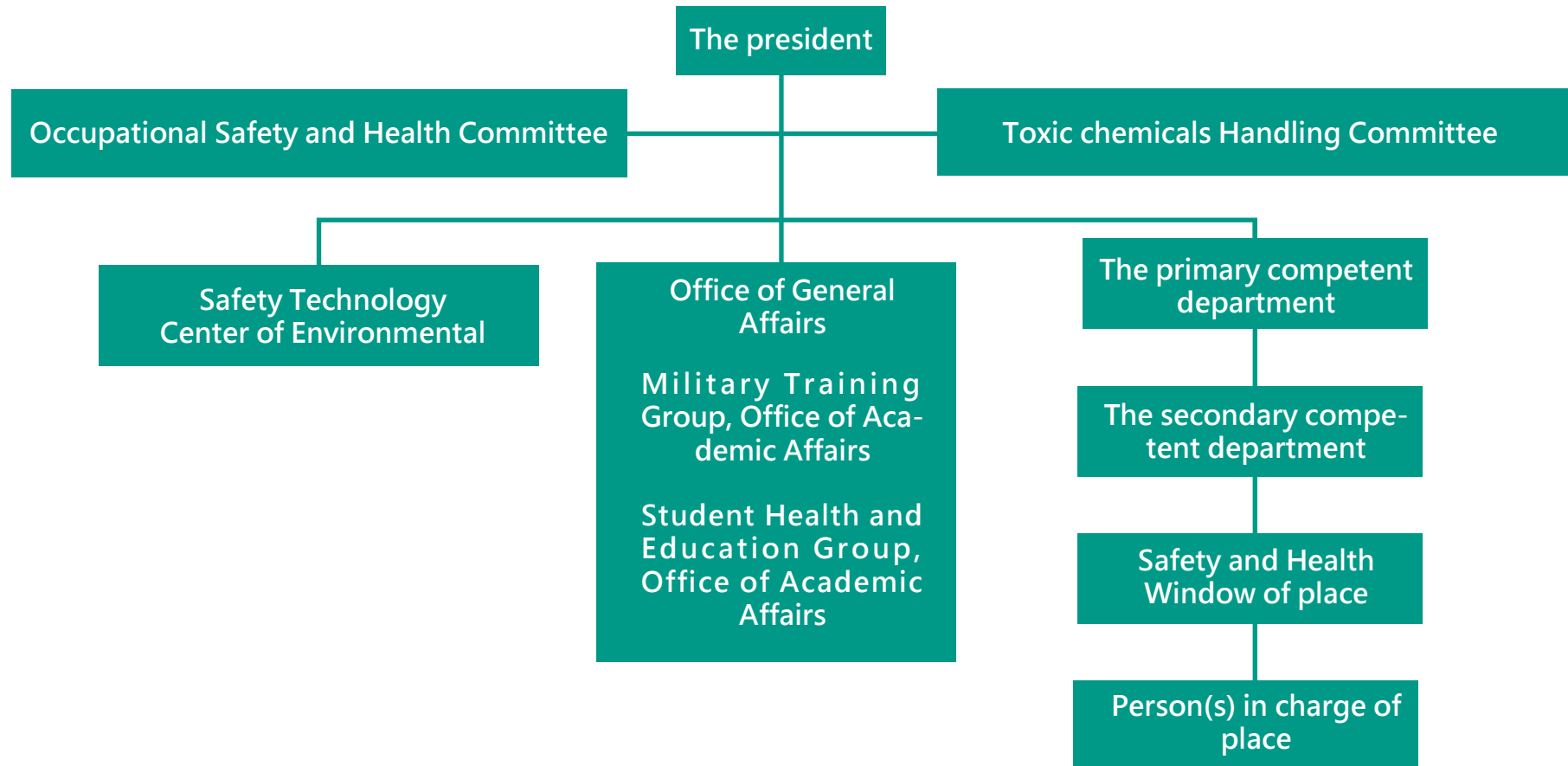


The Occupational Safety and Health Committee consists of 19 members, the President, the Head of the College of Engineering, the Head of the College of Design, the Director of General Affairs, the Director of Research and Development, the Chair of the Department of Environmental and Safety Health, the Chair of the Department of Chemical Engineering and Materials, the Director of the Accounting and Statistics Office, the Director of the Personnel Office, the Chair of the Health Education Group, the Director of the Environmental and Safety Technology Center, the Chair of the Safety and Health Group. And it has seven labor representatives which accounts for 36.84% of all members.

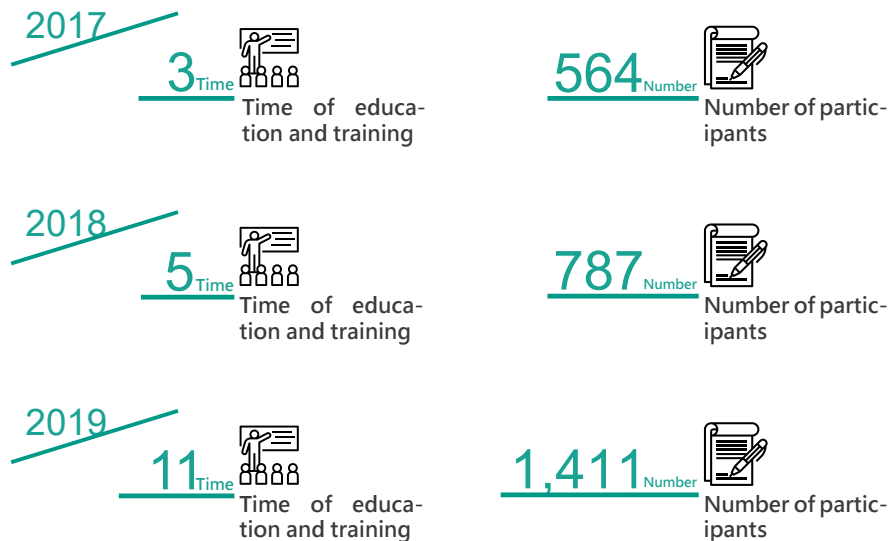
The University's Safety and Health Work Code was amended to comply with the Occupational Safety and Health Act and its related regulations and expanded the scope of application to include most "employed workers". It was approved by the 3rd Occupational Safety and Health Committee in 2019 and reported to the Occupational Safety and Health Center in central Taiwan of Occupational Safety and Health Administration of the Ministry of Labor for registration on September 4, 2019 with the login number B108006043.

The Wednesday of the second week of each semester is designated as the education and training day for safety and health of new and in-service teaching staff. The number of training sessions can be increased according to the situation. By advocating the implementation of education, a safety and health culture can be created, and the concepts and skills of safety and health of teaching staff and students can be improved, which will help to improve the ability of disaster prevention and response. The Environmental and Safety Technology Center carries out irregular inspection for the laboratories of all departments, and requires the audited units to improve the audit results, so as to improve the safety and health performance of the campus and achieve the goal of maintaining the safety, health and pollution prevention of faculties and students.

## Flow Chart of YunTech Environmental Safety and Health Management System



## Number of times and participants of education and training on health and safety of faculties in



## Drinking water management

The drinking water sources of our school are tap water, cistern and water tower. The water dispenser is regularly cleaned by the commission unit every year. The Environmental and Safety Technology Center is responsible for the maintenance of the water dispensers, and the contractor is responsible for the maintenance of the water dispenser every week. The water quality inspection of water dispensers is tested by a water quality testing company approved by the Environmental Protection Administration of the Executive Yuan once every three months. The number of each inspection is one fourth of the total machines in the school, and the test item is "Escherichia coli group". If the inspection is not qualified, the record will be immediately recorded and the machine will be listed to remove from use. The maintenance manufacturer will be notified for maintenance and reinspection. Only after the inspection is qualified, the dispenser can be used again. In 2019, 184 water dispensers were qualified.

## Emergency Plan for Severe and Special Infectious Pneumonia

In view of the expansion of the severe infectious pneumonia caused by new coronavirus infection in the China, YunTech have formulated a "special infectious pneumonia prevention and response plan" and set up an epidemic prevention group in order to maintain the health and safety of our faculties and students, in line with the relevant decrees and preventive measures issued by the Central Epidemic Command Center. YunTech has taken a number of preventive and control measures, including the preparation of epidemic prevention materials, the control of all school personnel and the environment, the adjustment of the curriculum, the management of school closure, health care and psychological counseling. An epidemic prevention section was established on the home page of the school. Moreover, the Department of Electronic Engineering and the Center for Intelligent Medical Research have developed the "Auto Epidemic Test Station" (4 fully automated and 8 semi-automated) and placed them in 12 buildings across campus to provide temperature measurements.

## The impact of the pandemic on the school and our responses

1. Suspend courses / international students 'entrance: In order to avoid the negative impact on students' related rights and interests, the policy of "suspend courses without suspension from school" was adopted. The Office of Academic Affairs coordinated teachers to carry out distance teaching (synchronous and asynchronous) and online teaching. There were 306 distance courses (76.69%) in total.
2. Personnel shortage: Since a lot of personnel is needed for quarantine issues and health and psychological care, the Office of Academic Affairs was responsible for parallel connection, and all units of the university were fully divided to assist in all epidemic prevention work, while the Personnel Office assisted in the health management and care of faculties. And the office of general affairs assisted in the division of labor of epidemic prevention materials and other units.

3. **Impact of school affairs promotion:** Due to the epidemic prevention measures and related guidelines issued by the Central Epidemic Command Center, some school operations have been temporarily suspended or shut down as the result of the inability of staff to travel, exhibit, enroll, and conduct major events. Intramural activities were postponed or hosted online.
4. **Increase in operating costs of school affairs:** In response to the pandemic, 25 epidemic prevention stations were set up throughout the university, and the cost of manpower and epidemic prevention materials was significantly increased. After applying for subsidies from the Ministry of Education, the school obtained about 2.7 million NTD of pandemic prevention funds, which has made up the school pandemic prevention funds. Although, some of the activities or meeting places can not be rented, reducing the rental income, the university took the opportunity to maintain and renovate the space to provide a better venue for future activities.

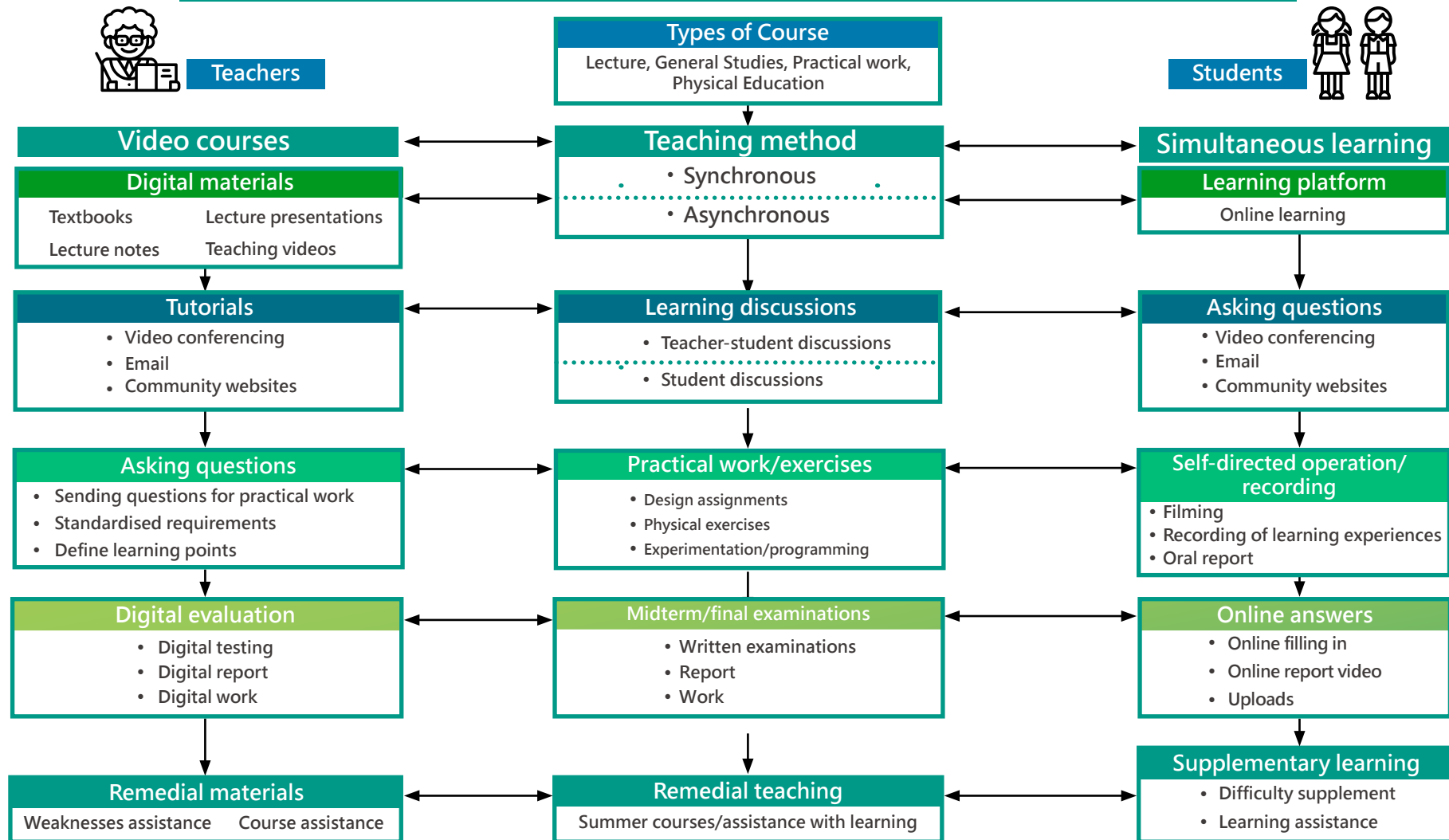
Conference for pandemic prevention



Temperature measurement and reports made by auto detection platform



## National Yunlin University of Science and Technology – Safe schooling measures - Design process of Distance learning



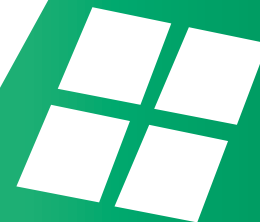




# 06 Social Integration and Placemaking

## Major Issues

Social Integration and Placemaking



## Major themes management policy and its elements

### Major themes of YunTech's sustainable development

#### Social integration and placemaking

#### Reasons for major themes

With a commitment to university social responsibility (USR), YunTech takes "promoting social practice" and "fulfilling university social responsibility" as two main targets by integrating USR and placemaking development into its administrative tasks.

### Specific themes of GRI Standards

#### Gri 203: Indirect Economic Impacts

#### Policy

Follow the Strategy III: Use education and Research & Development resources to solve local, industrial, social, and global problems of YunTech's Medium-term Development Program (2019-2023).

Establish the university center of USR to assist incubation and integrate related sources for cooperation at university, social and industrial levels; encourage teachers to go outside and solve regional issues with the expertise of each institute based on local demands.

### Commitment

- To fulfill local social responsibility, YunTech aims to make following USR teams of teachers and students continue to help local citizens with the mission of co-existence. Learning from the paradigm of other technology universities in energy and experience, we must effectively integrate with existing local institutions and resources (such as NGOs, local governments or youth groups) to expand comprehensive effectiveness.
- The past USR operating model featured by industry-academia collaboration is the sustainable basis for YunTech to promote USR, which focuses on how to accelerate the integration with formal courses, enhance students' participation, arouse the sense of mission of students at Yunlin County, and involve other students outside the county for joint efforts.

### Target and goal

- Short-term:**  
Continue to enter existing practice bases for USR.
- Medium-term:**  
Continue to solicit teachers to enter practice bases for USR in Taiwan.
- Long-term:**  
As a third goal of YunTech to "exert local, industrial, social and global influence", the fulfillment of social responsibility is an important theme of sustainability. Related work emphasizes on "promoting social practice" and "fulfilling social responsibility by USR program" through concerted efforts of teachers, students and community residents to advance USR for social integration.

### Responsibility and system

- External responsibility:** Implement the local practice from region to the global, and incorporate the partnership with "YunTech is everywhere" as value of social practice.
- Internal institution:** Enlarge teachers' participation and create more teaching energy. YunTech plans to improve the supportive teaching system within the university by various aspects, including course design, implementation planning, teaching innovation, technical assistance, as well as professional complementary and sharing platform. The value of highlighting this project lies in the Social Practice Center and Social Practice Platform.

### Impact and risk evaluation

- Construct an effective systematic knowledge base of social practice
- Implement the model of Total Solution to solve industrial problems accurately
- Teachers, students and stakeholders shall cooperate and share resources with each other
- As no risk event happened from 2017 to 2019, the existing measures for community placemaking and integration should be maintained.

### Investment resource

An investment of about NT\$9.26 million (6.63% of the total funds of Higher Education SPROUT Project)

### Complaint mechanism

- Advice System of Administrative Affairs
- Complaint and Comment Committee of Teachers and Students
- Guidelines for Students Complaints

### Specific strategy / Action

- Hold social practice workshops, speeches and experience-sharing meetings on international cases
- Construct systematic knowledge base of social practice
- Establish the Sustainable Development and Social Practice Research Center
- Strengthen the interactive community relationship among seed teachers
- Establish the dialogue mechanism between the planning and research
- Promote sustainable development of society and health services
- Advance sustainable environment and ecological education
- Sharing resources among cross-school libraries
- Speed up industrial links and sustainable economy to cope with communities
- Combine social resources to promote local care and education
- Head towards sustainable culture with cultural promotion
- Take sustainable development as the goal to promote international university social responsibility

## Major Themes Management Policy And Its Elements

### Output performance/ Evaluation mechanism

A comprehensive comparison between the achievement of annual goals and last year's performance

#### Targets being reached

- Open USR-related courses: 66 in total and 18 added
- Number of students studying USR-related courses: Occupy 34.86% of university students with an increase of 9.49%
- Organized workshops, achievement exhibitions, seminars and theme speeches: 73 times in total, and 31 added
- Continue to stay at Yunlin County and other USR practice bases of Taiwan: 48 in total, and 44 added
- Number of manufacturers in N.T.U Innovation Incubation Center: 33 in total and 1 added
- Number of sister schools: 331 in total and 37 added

#### Targets not being reached

- Percentage of overseas degree students: 5.23% with a decrease of 0.12%

Improvement plan: Due to the Covid-19, students from Hong Kong, Macao and other regions of the Mainland who have suspended the schooling and cannot enter Taiwan have increased, resulting in a decrease in the ratio of overseas degree students in 2019. During this period, relevant enrollment publicity activities were still ongoing to recruit excellent foreign students.

## 6-1 Strategy and Goals of Social Integration

With the promotion of sustainable concepts (SDGs) of the United Nations and university social responsibility (USR) by the Ministry of Education, YunTech has changed from a field role of cultivating students to a provider of local support to enhance the overall national sustainable development. To achieve this, YunTech has set up a Sustainable Development and Social Practice Research Center. With abundant research resources, YunTech has further shouldered the responsibility of social services.

As for special conditions of natural resources and cultural environment at Yunlin County, local relationships of YunTech are much more special than those of ordinary universities. That is to say, while pursuing technical specialty and industrial-oriented services, YunTech also pursues a common cooperative relationship between the university and local partners through the services and cooperation among the industry, government, university, and research institutes. Owing to this, from early community construction, professional service learning, industrial learning projects, local government entrustment, to social responsibility of Ministry of Education and placemaking of the National Development Council recently, the past 30 years have witnessed the establishment of platforms and opportunities for more in-depth practice. What YunTech has focused on and continued to inherit is how to cooperate with more governmental and non-governmental organizations through professional knowledge and skills to form a more flexible interdisciplinary team. Along with scientific technology and innovative application, YunTech should improve tools and methods to solve problems, and cultivate young talents with more social vitality during the practice.

## Core Vision of YunTech's USR

University social responsibility represents the symbol of concern and assistance in solving social issues. Starting from the essence of education, YunTech hopes to figure out how to help solve social issues by means of field work, design training, social design, experience design, and service design. Moreover, university social responsibility and problem-based approach are introduced to guide students in mastering emerging technologies and dealing with social issues. Students are expected to face rapid changes of new challenges and complex situations in the future to solve problems perfectly.

Considering diversified learning styles of current students, the learning process is not only limited to the education in classroom, but also the training of students with abilities of cross-domain cooperation, improved technology, and multiple opportunities to explore problems in real fields. Hence, the university carried out a number of strategies to support YunTech's USR at campus from three dimensions of "university promotion mechanism", "teacher's instruction and guidance" and "student's real field test".

## Establish Sustainable Development and Social Practice Research Center

To ensure that USR is connected with education and administrative businesses to develop, the university built up the Sustainable Development and Social Practice Research Center. In addition to focusing on sustainable development and ecological environment, the University has also included issues of the elderly and young children. In 2020, it aims to develop themes and fields with local characteristics to solve problems at Yunlin and local areas. In addition to the sustainable development goal, it also plans five aspects of USR practice based on the guiding principle of "fulfilling university social responsibility" promoted by the Ministry of Education's Higher Education SPROUT Project. Hence, teachers can have a common vision and direction in the participation and implementation of USR related programs .

Local care and education

Environmental ecological action

Industrial chain and community cooperation

Promote social health

Promote sustainable

The establishment of this Center can help expand both the width and depth of USR promotion tasks of university. Moreover, it can improve the complementary and connectivity of related practical tasks in the aspects of administration, instruction, and research. Furthermore, this Center is responsible for incubating the USR Hub, assisting horizontal connection of programs, providing related knowledge, resources and tools, and supporting groups to cultivate, practice, guide, and supervise practical fields. Relying on this Center, key characteristics and resource integration of USR can be developed to lay a solid foundation for the university. Additionally, we also look forward to working with local residents to promote USR. With the purpose of “to serve local industries, teachers, and students”, YunTech is devoted to promoting social harmony and integration.

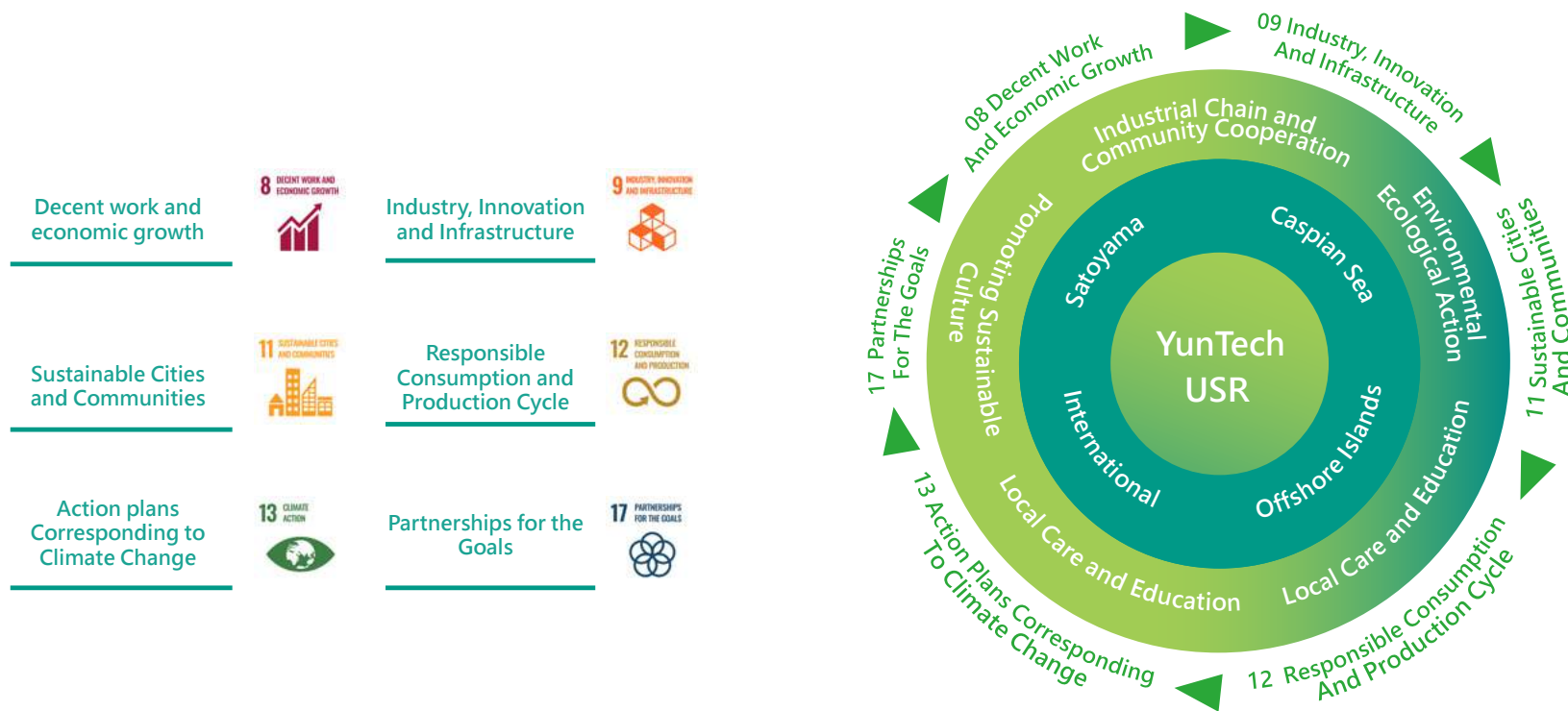
## The Commitment of YunTech’s USR

To fulfill university social responsibility” is a university theme for us to move towards the 2022 New-typed Sustainable Technology University. Based on the past Project-based Learning (PBL) curriculum experience, YunTech has emphasized more on PBL now. With efforts in constructing social practice knowledge system, aesthetic education community and social practice exchange platform following the Maker spirit, YunTech plays an active role in solving social problems and implementing social practice ability.

In recent years, the results of social practice are becoming more integrated and concentrated in the distribution of themes and fields. In addition to the sustainable plan, there are still issues about multiple fields and themes to deal with. Therefore, we will continue to cultivate new planning teams, and call on more participation and dedications of teachers and students with professional skills. Referring to the 17 sustainable development goals of the United Nations, six priorities have been put forward to deal with themes and fields. Due to issues and demands of



different fields, homogeneous teacher teams are allocated to offer assistance. What's more, it is expected to expand social influence of university to 96 practice sites from 2020 to 2022. In the future, by fulfilling university social responsibility, we will continue to embody the power of education and knowledge, and promote the sustainability of local economy, society and environment as an important and influential party. We welcome your participation.

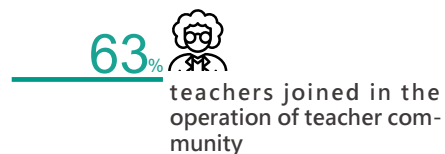


## 6-2 Internal Social Practice within the University

Taking humanistic care cultivation, application-oriented energy accumulation, social and global influence, harmonious, diversified and sustainable campus as its goals for social integration, YunTech hopes to build a society with cultural diversity, educational solicitude, innovation creativity, environmental sustainability. To achieve this social vision, multiple strategies are pro-

- General education innovation
- Service-based course promotion
- Moral education course implementation
- Intelligent robotics Bachelor's degree program combined by AI, sustainability, well-being healthcare
- Promote social integration and placemaking

### ▲ Basic general education innovation to cultivate students with cultural diversity and humanistic literacy



To improve teaching methods and curriculum contents, we keep holding intensive meetings for general-education teachers. Teachers are expected to learn across fields and pass on knowledge to students. Compulsory courses gradually changed into elective courses of interest in order to loosen the restrictions on categories, enabling students to be free to choose courses. Combining USR, PBL and micro-training practical courses along with creative thinking and teacher community of information literacy, general education courses can provide a blueprint for future academic interest through special themes, so as to enhance students' abilities of exploring independently and solving problems by interest.

In the past two years, 18 types of interest courses about “literature and innovation” have been offered in total to provide fresh projects for interest exploration and team development with an increase rate of 90%. Moreover, since 2018, three compulsory courses including “Life Education”, “Civilization Change” and “Constitutionalism and Rule of Law” have been integrated into general education courses, after which the credits increased from 8 to 14. From 2017 to 2019, the number of general education courses grew from 111 to 199 by nearly 79% to offer diversified choices of students. In addition, by opening a platform of Massive Open Online Courses, teachers and students are encouraged to propose their demands for courses and the General Education Center can accordingly cooperate to give lessons. 46 micro-credit courses opened in 2019, when 1,682 students participated in total (occupying 25.1% of students) at the undergraduate department and increased by 39.4% than last year.

### ▲ Promote service-based courses to carry out the spirits of education solicitude and lifelong learning

1,400   
freshmen joined the diversified service-based plan every academic year

Both day freshmen and transfer students of bachelor’s class at YunTech shall take service-based learning courses to achieve the purpose of service-based learning popularization. According to service-based learning, the curriculum planning contains four stages, which are preparation, service, reflection and celebration. The contents of service learning are diversified, including the assistance in campus environment arrangement, administrative affairs, and other activities. Furthermore, we will promote service learning both within clubs and neighborhoods to offer students more choices and create good relationship with communities, making a contribution to the society.

### ▲ Significant achievements have been made by implementing moral education courses

83,567   
students participating in related activities of moral education

Taking the deepening of moral education as the basis and core of general education, our university integrates moral and life education together. With the vision of holistic education, YunTech hopes to improve both the understanding and implementation of holistic education courses by the sharing of teaching concept and experience through teacher community. In recent three years, the effects of moral education activities are becoming increasingly strong.

105  
Academic Year

63,559



Number of Participants

NA%



Growth Rate

106  
Academic Year

76,627



Number of Participants

20.56%



Growth Rate

107  
Academic Year

83,567



Number of Participants

9.06%



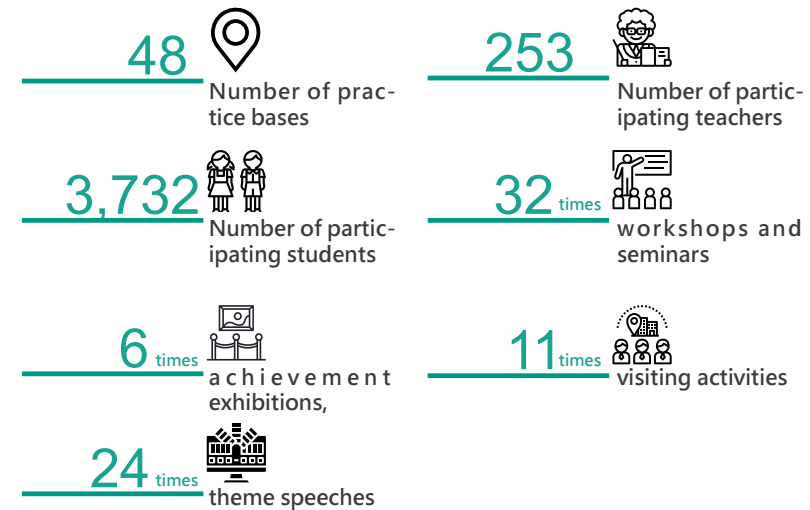
Growth Rate

### ▲ Well-being healthcare, sustainable and AI help nourish cross-domain talents with unity of theory and practice



In response to social structure of the super-aging society and international development trend, YunTech implements the Technical Universities' International Talent Cultivation University Pilot Project based on the integration of research and planning as well as sustainable development goals of the United Nations with the gerontechnology of intelligent robotics. Moreover, YunTech has been an international sister school with Chiba University and Osaka Institute of Technology for resource sharing. In September 2019, the Intelligent Robotics Bachelor's Degree Program was officially established to cultivate future talents of higher education in robotics. This degree program is based on the six PBL research centers, including Smart Space Field Center, Smart Medical Perception Center, Assistive Science and Technology Center, Medical Big-data Application Center, Intelligent Design center, and Medical Internet of Things Center. From curriculum planning to internship guidance, YunTech aims to help students in finding jobs with one-stop services.

### ▲ Promote social integration and placemaking



Funded by Higher Education SPROUT Project, cross-domain teacher groups are formed as a preliminary USR Hub Group to cover local issues combined with different forms of curriculum like courses and workshops. In 2019, 48 practice bases were newly developed, which planned to involve 3,985 participants (253 teachers and 3,732 students) in total. In the future, by fulfilling university social responsibility, we will continue our efforts in reflecting the power of education and knowledge, and promoting the sustainability of local economy, society and environment as an important and influential party. We welcome your participation.

Continue to intensify the participation of teachers and students in social practice, coordinate and plan the fulfillment of USR with social practices relying on Sustainable Development and Social Practice Research Center, and establish the communication platform for the circulation of resources, manpower and knowledge. What' s more, USR-related courses have been opened involving a total of 40 teachers (which makes up for 9.97% of full-time teachers) by cross-department teacher community of social practice.

Focusing on local issues and USR fulfillment, YunTech incorporates the partnership with "YunTech is everywhere" as value of social practice. With more participation of social practice teacher community, more energy is created; professional complementarity and knowledge sharing are realized by teachers' mutual technical assistance. Additionally, by establishing a platform to collect knowledge, possible connections can be found among teachers, students and local society to link more with social practice.

Responding to the connections between university and local community, YunTech emphasizes on the problem-oriented learning based on experience in PBL. Through the construction of society practical knowledge system and the implementation of aesthetic education, our university proactively carries out the ability of social practice.



In 2019, the annual investment in social practice was NT\$9.26 million, bringing out the following specific effects within the university:

- 23% of students have experienced USR courses in total
- A total of 40 teachers are involved in cross-department teacher community of social practice (which occupies 9.97% of full-time teachers)
- Established the university “teacher community of social practice” to support social practice.
- Teachers shared teaching materials / teaching design application fruits through the series of Social Practice Light Activity
- Provided students with opportunities to improve technologies and earn internships

College of Future of YunTech also trains the students' practical skills / knowledge proactively to make sure that they can fulfill social responsibilities with teachers while entering communities to carry out social practice activities and make efforts to improve students' training activities. Moreover, students are encouraged to serve in communities, enterprises or government departments with professional skills and innovations to establish a brand of volunteer service for the university.

Number of workshops and lectures by industrial talents students with students' participation	10
Number of students participating in learning how to improve technology and skills	65 (occupying 81.25% of students at College of Future)
Number of professional service-based learning courses	62 with a growth rate of 19.23%

- Support the cross-university alliance and participate in USR programs of other universities

To fulfill university social responsibility, our university promotes industry-academia collaboration and enhances the opportunities of industry-academia library resource sharing and cooperation. In 2019, the “Joint Library Resource Sharing Platform Programme” was hosted to advance industry-academia collaboration by resource-sharing activities like course researches and borrowing-with-gifts of alliance schools to promote industry-university technology transfer and cooperation. For special interest group (SIG) in shallow mountains, it is operated by National Yunlin University of Science and Technology, Chaoyang University of Technology, Chung Hwa Medical University, National Kaohsiung University of Science and Technology, Taiwan Southern University of Science and Technology, Tainan University of Technology, Kun Shan University, National Chiayi University, Yuanpei University of Medical Technology, Tzu Chi University and other schools, which are two key points of USR for community and university. In terms of issues related to community, YunTech cooperated with five sister schools to form the SIG of “USR in agriculture and fishery combined with placemaking”; as for issues about university, YunTech works with six sister schools to form the SIG of “social design and education of nurturing by nature”. Depending on mutual visits, regular learning, and workshops, much experience is exchanged and spread among universities. When it comes to cross-university cooperation of USR in raising chicken, YunTech will cooperate with sister' schools, including the Department of Animal Science at National Chung Hsing University and the Department of Animal Husbandry at Tunghai University, to carry out cross-university industrial planning and collaborative teaching. With the support of professors with forward-looking leadership and practical experience in animal husbandry from sister schools, YunTech can learn from their experience to make up for its drawbacks in the industry.

- USR of teachers and students and international cooperation

International cooperation is implemented to fulfill USR in shallow mountains as follows: through overseas seed teacher training, short-term exchange camps, transnational seminars, international visits and others, teachers and students can connect more with overseas universities, communities, and organizations, so as to prepare for the sustainable development of USR. Cooperate with international partners to fulfill USR in Laiji tribes: by coping with Laiji tribe on the Alishan Township of Chiayi County, Feng Mountain Community on the Alishan Township of Chiayi County, Zhanghu Community at the Gukeng Township of Yunlin County, Chiba University at Chiba City of Japan, and Mishima at Onuma District of Fukushima Prefecture, YunTech will continue to highlight the society, ecology, production and landscape as the loopholes of overall planning with Eco Museum as the core. Six major themes are summarized as the focus of practice, including the "Practice System of Satoyama", "Management of Cultural University in Satoyama", "Visual and Physical Museum Planning", "Design Aesthetics Cooperation", "Intelligent Technological Creation", and "Social Construction and Academic Exchange". As a result, the Satoyama community can have more strength and confidence to develop cultural industry, and the public can have a deeper understanding of traditional culture, while the ecological practice and sustainable environment can be enhanced with better quality and value of handicrafts. Finally, regional revitalization and traditional cultural resources can be preserved.

## 6-3 External Social Practice outside the University

**16** bases 

Support teachers to continue to enter existing practice bases for USR

**32** bases 

Solicit teachers to enter practice bases for USR at Yunlin County where the university locates or other places at Taiwan

**1** time 

technological experiment workshop: Workshop on audio production of TV and film

**Title of book** 

Stand Up, Take Action: 2020 YunTech's Achievements in Social Practice

“Stand Up, Take Action” is the collective achievement book of YunTech’s implementation of the Higher Education SPROUT Project by Ministry of Education in 2019, especially for the implementation of university social responsibility. Using the two-stage initiative solicitations of Sustainable Development and Social Practice Research Center, we hope that more space can be created for teachers’ improvement and exploration in issue discussion and problem-based innovative teaching methods. A total of 38 projects were selected by those two solicitations and co-sponsored by 79 teachers from five colleges. Each project has five aspects, which provides teachers with resources to promote the curriculum and practical plan targeting social practice and placemaking. All these plans contain careful planning of all participating teachers, time-consuming field work and contact work, support and assistance of off-campus units and organizations, and the input and learning process of all teaching assistants and students participating in the learning process. University social responsibility and community building that used to highlight practice with social humanity now highlights the practicability of scientific technology and innovation application. Thus, industrial services and connections touched by YunTech are strengthened with the spirit of university social responsibility. This report book is in line with SDG 11 of Sustainable Cities and Communities. For the full version, please refer to Stand Up, Take Action.

## Five dimensions of "Stand Up, Take Action"

5



Number of projects in local care and education

4



Number of projects in environmental ecological action

19



Number of projects in industrial chain and community cooperation

4



Number of projects in promoting social health

6



Number of projects in promoting sustainable culture:

Total  
38 projects



Stand Up, Take Action: 2020 YunTech's Achievements in Social Practice

## Local care and education

### 1. Market revitalization plan of Changhua County

After entering into the traditional market, students from the Department of Design started to learn about Taiwan's traditional culture through interviews and surveys, injecting a new vitality into market by designing to attract more people into the market. During the process, we cooperated with Nanguo Elementary School to involve both students at university and elementary school in the understanding of traditional market culture. This activity not only enables university students to learn how to interact with children and vendors, but also helps students use design abilities to benefit the society. Therefore, not only can those students improve their design ability and professional experience, but also can they gain a strong sense of achievement from this activity, making them more enthusiastic in implementing the design in the future.

From the professional perspective as a team, we bring design thinking into West Central District Market to stimulate its development potential and historical context for more diversified development. Moreover, by extracting unique elements of the market and re-designing later with knowledge, combined with skills and profession from Engineering Design Department and creative thinking of elementary students, the characteristics of market and the elements of vendors can be transformed to create the uniqueness and stories of market. Since the second floor of West Central District Market lies in the Sports Center, taking the extension of interaction time between mobile people and market stalls into consideration, the teams made people stay longer for shopping by presenting co-creation fruits. As a result, the people can understand more about local culture of West Central District Market to form more connections, and West Central District Market can become a highlight of local tourism to shape the new urban culture.

## 2. Cultural memory and local cultural identity in picture books



(A photo of team members from Engineering Design Department of YunTech)

Eight times of picture book readings have been organized to explore cultural memories embodied in stories of picture book, especially in childhood stories, and to appreciate feelings of different generations towards childhood. In addition to nostalgia, childhood experience is also vital to overall cultural memories and historical traditions. Through the readings, cross-regional and cross-generational views of adults and children can be exchanged. To be more specific, those questions have been discussed: How do modern children and university students perceive or imagine the childhood of their parents and grandparents? How do modern parents look upon the childhood of the previous generation? How do cultural identities of different regions occur? How do cultural memories of the previous generation are passed on to the next? The output of this project is 11 picture books in total.





(The lecture on the writing of picture book)

### 3. USR of remote rural schools and communities for university students

With the combination of practical courses, our university aims to improve the problems caused by uneven resource distribution and rural-urban gap for socially vulnerable groups or remote rural schools and communities in the society. That is, vulnerable groups or remote rural schools and communities have very limited access to resources. Hence, except for support from kind public, we tried to figure out how university students can start from themselves with the guidance of teachers to apply theory into practice, which can further help local universities fulfill social responsibilities and deepen the recognition and identification of local environment. The students took ShanFeng Waldorf School and Long Love Orphanage as practical fields to design. As for Long Love Orphanage, from the discussion of planning with children to the design of beautiful environmental patterns, the design is a process full of love, fun and practice, melting hearts of participating students. What's more, by beautifying the environment together, both students and children cherished the time spent together.

## Industrial chain and community cooperation

### 1. The training of young farmers at Gukeng of YunLin and placemaking plan

The purpose of this plan is to make young farmers and entrepreneurs returning home understand industrial values (in products or services) and introduce new business model for more interests by breaking through existing bottlenecks of Gukeng community. As a result, according to this plan, the Promotion Department of Gukeng Farmer's Association shall cope with teachers and students majoring in management and design from our university to assist young farmers and entrepreneurs returning home in Gukeng to carry out business value-added. Based on entrepreneurship workshops, we can think about the value of start-ups, assist in entrepreneurial project management and practical operation, and introduce modern marketing technologies to improve the industrial visibility and marketing information spreading in Gukeng district, so as to construct its business model prototype and increase market opportunities. By working with Gukeng Farmer's Association to guide young farmers and local entrepreneurs with new marketing technologies, we could cultivate creative thinking and industrial management of Gukeng local young farmers and micro entrepreneurs, so as to improve their business performance with shared prosperity.



(A photo taken when the President and Director of Shan Feng Waldorf School awarded the Thank-you Certificate to students)

In addition, we successfully attracted external investment into Gukeng, and even large enterprises are attracted due to Gukeng's local characteristic of entrepreneurship to invest money in assisting the goal of placemaking.



(A photo of Gukeng young farmers and local entrepreneurship training workshop for students)

## 2. Social practice programme of “cultivating sustainable culture” in Pazeh Community

First of all, after the review of problems about Pazeh Community, we put forward the solutions as well as a strategy of “cultivating sustainable culture” in social practice. By employing focus group interviews, seeking rituals on traditional principles and appearance, and selecting cultural elements, our research team investigated values, ritual norms, paradigms of food, clothing, housing and code of conduct along with study camps and other activities. Moreover, we carried out the construction and 3D-film of Pazeh Museum, cultural and creative commodities, cultural and aesthetic composition, cultural APP design of Pazeh community, etc.



(A simulated street corner museum of Pazeh community)

### 3. Soundscape performance plan of "Stay with Farmers at Huben Village"

Considering the importance of university social responsibility, local practice, and rural field mobilization and reconstruction, this plan continues to follow the concept of Smart-A, including agricultural leisure, agricultural cultural innovation, agricultural production and marketing, to help rural development with characteristics. What's more, we will continuously cultivate the Huben Village around the lake. With the spirit of teaching practice with related research thinking mode, we tried to touch on the problem of shaping rural characteristics. Using cross-field teaching workshop in accordance with the spirit of field cooperation among young farmers, we can jointly develop rural characteristics with wisdom for Huben Village. Hence, social practice talents can be nourished who can serve rural areas, design and think, and apply information technologies.

Currently, textbook modules developed by previous plan have been successfully introduced, and two courses as well as field practical workshops on local topics are also completed. Through the courses of "Performance Design" and "Design Methods and Creative Thinking", micro-workshops and visiting activities, lectures by field experts, experiencing, observation and interviews on field problems, cultural and creative products have been produced by the learning, thinking and design of many students' groups, such as: the interactive map in-and-out of lake, Huben cultural and creative products of bird world, APP UI design of visiting Huben, etc.



(A photo of visiting Huben Village)

#### 4. Establish a local brand of “Tai Po Community” Establish a local brand of “Tai Po Community”

Following the policy of placemaking, Tai Po Community hopes to start with the integration of two aspects, including local brands and places of interest. These two projects have made considerable achievements in the local development over the years. At the same time, it is hoped to create job opportunities to attract young people back. However, there are still problems, for instance, insufficient connection between agricultural products packaging and tourist attractions. With the help of professional team planning and design, we can achieve the purpose of brand image. Under the guidance of YunTech, Tai Po Community has carried out the packaging design of “bamboo shoot series”, in which the packaging design of golden dried bamboo shoots won the award of “Good Agricultural Products in 2019” from the Water and Soil Conservation Bureau of the Council of Agriculture of the Executive Yuan. Encouraged by our team, the original packaging of pickled bamboo shoots participated in the “2019 Yunlin Good Hand Gifts” and won the first prize.





(The packaging design and appearance of products)

## 1. Promote social health

Adopting the theme design of nostalgic aesthetics, our university made the elderly of community more connected to health centers spatially, enhanced the experience field of health-beneficial technology within the health center, and guided the elderly into the health center happily to increase the health and vitality of the elderly. Both the health center and clinic belong to the important basic medical field of community. As for the health center, it is a medical and health unit set up by the public sector to carry out public health work, which is responsible for the following four important roles: medical healthcare, disease prevention, food control and social family. The health center is located is a "hidden space" of community. According to a domestic survey, a quarter of community residents did not know the location of health center nearby, and 40% was unaware of its health-beneficial courses and equipment. Hence, how to make the health center become dominant in the daily life of elderly, and how to give full play to I-care tasks of the health center are important topics for students to explore in the social practice course of this plan. Health centers at Yunlin County and Dapi Township were taken as practice fields to set up nostalgic fields with "utensil style". The behaviors and cognition records of the elderly were finished when they experience the nostalgic fields to conduct behaviors, oral speeches and look back on the past. Using the questionnaire, we found out the variable relationship among "simple nostalgia", "reflective nostalgia" and "interpretive nostalgia".



(The nostalgic environment of Health Center at Yunlin County)

## 2. Advance the integration of young and old people and I-care Cafeteria

Changes of social habits, ideas or values of an aging society will not immediately affect eating behaviors of human beings; however, the changes of macro-environment will gradually shape a new community-based catering situation and thinking mode. Therefore, we integrated into the community to form learning activities focusing on the exploration of food memory shared between the young and old. By promoting the integration of young and old people and I-care Cafeteria, the students can understand the “caring design” and “people-oriented concept”. In line with the theme of “empathy”, the students were

guided to understand the needs of the elderly by experiencing actual activities within the community filed, and therefore they could propose corresponding design plans of food utensils to embody their perceptions. In addition to meeting the principle of safe eating, the results also promoted the fun of “eating” for elderly, the creativity among different team members as well as cross-generational understanding.



(A photo taken when students and the elderly ate together at the cafeteria to help design the concept of utensils)



### 3. Promote and establish age-friendly healthy community

Since Taiwan has become an aging society now, the central government began to promote the version 2.0 of I-care plan in 2016 to establish a high-quality, affordable and universal long-term service system. Following the community spirit, basic services can be provided for disabled people to enjoy the elderly life in familiar environment and reduce the burden of family care. Secondly, the government hopes to achieve the goal of “aging at home” by offering diversified continuous services from family supporting, homestay, community-care, to institutional care. Service systems can thus be accessible and caring community can be established to improve the life equality of the disabled and caregivers. Our university established the physical fitness screening and tracking technology for community use, and cooperated with medical expert’s research partner team from the Department of Physical Medicine and Rehabilitation of Sixth Branch of National Cheng Kung University Hospital to figure out the elderly with health problems in communities such as Mayuan of Citong Township and Pingding Township of Linnei Village by physical fitness screening. In addition, to solve the problems of health and I-care in rural areas, we worked with rehabilitation doctors to provide health-beneficial courses.



(The demonstrating test of balance in physical fitness)



(A photo of all participants and arts in the activity of "Cyanotype in Summer")

#### 4. Seek the spring of artistic creation for old souls

Using related services of I-care 2.0 version along with the concept of "art as therapy", we relieved and promoted physical and mental health as well as well-being of the elderly, disabled and dementia; the elderly was guided to create various forms of arts in Douliu Community Care Centers so as to achieve the healing effect. What's more, during the process of promoting artistic painting in the community, we can not only help the elderly express emotions and mediate internal emotional conflicts, but also achieve sublimation of emotions and enhance self-awareness to smoothly achieve the goal of active aging.

### Promote sustainable culture

#### 1. Make full use of idle space of local cultural centers

In cooperation with the National Radio Museum, Performing Arts Center, Singang Incense Artistic Culture Garden and other local cultural centers at Chiayi County, through on-site visits and interviews with staff, students are guided to embrace historical traditions, cultural relics and resources of each cultural center based on its characteristics and demands. In line with practical course of cultural assets, the purpose of teaching is to connect students directly with social demands during the learning process to develop solutions to problems. This time, the students were sent to Chiayi Performing Arts Center and the National Radio Museum in two groups to investigate local cultural museums, and to propose creative ideas and activity suggestions in regard to the characteristics and history. In the end, the achievement publication meeting would be hosted in which each student group needs to give presentations, operate educational activities and explain management philosophies. Relevant experts were invited to give comments and guidance to promote the integration of practice and theory with the most direct training education.



(A photo taken when students visited Chiayi Performing Arts Center)

In addition to small-scale projects mentioned above, large-scale USR team projects are continued in Shallow Mountain, Laiji Tribe and towns of tea and bamboo.

### ▲ Guilin Program of Shallow Mountain

By promoting the renovation and reuse of old houses, eco-friendly natural agriculture, age-specific working mechanism, waste recycling, plant dyeing and weaving technology, and recyclable tableware, the sustainable economy can be created in the shal

By promoting the renovation and reuse of old houses, eco-friendly natural agriculture, age-specific working mechanism, waste recycling, plant dyeing and weaving technology, and recyclable tableware, the sustainable economy can be created in the shal

### ▲ Project for the Tsou at Laiji Tribe

#### Effectiveness on participation of local residents

100 people



Number of participants

#### Participation of teachers and students

350 people



Number of participants

Along with cross-domain majors and cross-university professions, this plan contributes to developing and promoting the culture of indigenous ethnic groups in the Laiji tribe based on partner' s placemaking. The implementation contents of the plan in 2019 focused on four themes, which are, "Management of Cultural University in Laiji", "Visual and Physical Museum Planning", "Co-designing", and "Practice System of Satoyama". This project aims to promote university' s role in social practice to interact with local communities, mediate between communities and teachers, and cultivate talents. Take local demands of tribes and teaching curriculum as practical content to satisfy development requirements of communities.

- **Management of Cultural University in Satoyama:** With the main purpose to promote tribal cultural education and cultural assets preservation, it holds regular exhibitions to record the development of Laiji tribe.
- **Visual and Physical Museum Planning:** Equipped with the function of preserving cultural assets by science and technology, it constructs cultural heritage carriers and makes cultural values of indigenous people known to the public through Internet platforms.
- **Co-designing:** By curriculum learning, program participation, and industrial internships of students, social practice can be implemented from campus to local areas to create cultural co-integration and co-learning, and to encourage young people to take root.
- **Practice System of Satoyama:** It hopes to build a learning and communication platform between tribe and school through video recording of tribes, guiding APP for community, Zou language inheritance in legends, and thus to let the tourists and residents understand the practice of Satoyama.

## ▲ Social practice plan for towns of tea and bamboo: shape the traceable supply chain and sustainable operation

100  
Number of participants



Building an integrated friendly community (co-learning)  
blockchain ecosystem

Establish the "After-Incubation" youth creation platform

With a total investment around NT\$7.6 million, while staying at Zhushan and Lugu townships for a long time, the team has developed six characteristic settlements for university local practice with sustainable operation and mutual connections according to local characteristics and majors of managing teams as follows: "Bamboo Material Settlement", "Food and Agricultural Education Settlement", "Parent-Child Learning Settlement", "Tea Culture Settlement", and "Ecological Protection Settlement" and "Youth Innovation Light Settlement". Guided by the operational framework of YunTech USR and putting efforts in developing a "deep economy" friendly life mode based on social integration, targeting designing "Brand Products of Placemaking" and developing the "Local Deep Economy", our team proposed six values of social integration using the innovative practice of "food, accommodation, learning and literature" to create benefits.

- Local social values combined with both "problems" and "opportunities"
- Social integration shall develop the values of integrated ecological process
- Social integration shall have the value to make "tourist" into "socialist"
- Social integration shall respect the value of local life
- The value of learning cluster in the operation of O2O by towns of tea and bamboo

- Social integration should transform the value of “tourism” into “learning experience”

## Open services of YunTech Library

**138** million copies / kinds



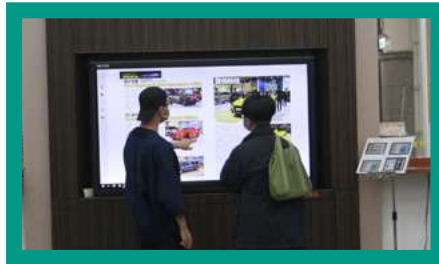
The total collection

With diversified book resources available to communities to fulfill university social responsibility, Jiahui District YunTech Library has been integrating USR into the service concept of sharing resources with communities since its establishment. In accordance with Libraries Act (Republic of China) and key points of Guiding Rules and Lending Regulations of YunTech Library, as well as the government’ s advocacy of reading and lifelong learning, we welcomed people outside the university to visit the library by offering the Library’ s Friend Plan and coped with other colleges and universities. For people subscribed the Library’ s Friend Plan, they can register for the reader’ s card and library card to borrow books out of the library and to read in the library. Moreover, self-made E-books and digital information technology enable the public to browse paradigms and commemorative albums of the university online.

The library hall is equipped with interactive touch screen display, which shows that: Digital University History Museum - open to people from outside the school for browsing. Happy Selfie Area – open to people from outside to take a photo with the school scenery without logging in using digital technologies. Digital Reading Area - open digital learning resources and selection of real-time e-magazines for browsing. With the joint-library resource-sharing platform of Sustainable Development and Social Practice Research Center under the Higher Education SPROUT Project, the program provides partner schools with cross-university library resources, over 6 million books from partner central technical colleges can be equipped with the borrowing and returning service, with an average annual lending volume of more than 1,000 books.



## The number of borrowed books by off-campus readers during 2017-2019



Since YunTech is the top university at Yunlin County, except for supporting the teaching and research of teachers and students as main tasks and functions, the library serves the needs of people' s lifelong learning and constructs a friendly and high-quality learning environment in accordance with policies of national educational development and university research development. Adhering to the mission to develop with community by integration, it embraces the service concept of sharing knowledge resources and space facilities with the public. Diversified promotional services have been carried out for a long time, including preferential access to reading and borrowing books for off-campus people and community residents, make volunteer work available to off-campus people, enabling community residents, educational institutions, industry-academia collaboration organizations to use books, computers, exhibition halls, guide services, and to participate in seminars by application. Devoted to sharing and exchange of educational resources, the library hopes to achieve the goal of "make higher education more public and fulfill the social responsibility"

### The percentage of off-campus visitors to total visitors during 2017 to 2019

Year	Number of Visitors outside the School (including Visiting Groups)	Number of Visitors within the School	Total Number of Visitors	The Percentage of Off-campus Visitors to Total Visitors
2017	52,117	205,499	257,616	20.23%
2018	55,049	196,053	251,102	21.92%
2019	45,476	186,350	231,826	19.62%

### Performance activity

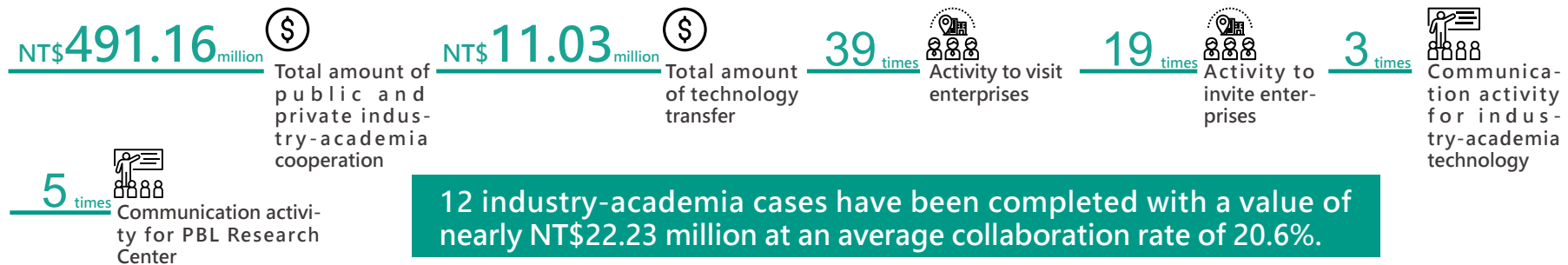
Since its founding, guided by the principle of making communities friendly and rewarding local places, YunTech has organized different kinds of large-scale performance activities to involve the public together. In addition, YunTech helped students to form clubs and encouraged them to organize performance activities with characteristics. A variety of recreational clubs can be found in the school, like orchestra clubs, Chinese traditional music clubs, drama clubs, and choirs. These clubs are self-organized and even raise funds to involve the public, producing good effects in the end. Main objectives of the art center are to develop the education of "science and technology" and "humanities and arts", enhance the artistic atmosphere of campus, promote art education with general education courses, and create artistic space for teachers, students and community residents.



### Summary of various arts and cultural activities during 2017 -2019

Year	Number of Performance	Piece of Collection	Number of Art Guides	Number of Concerts	Number of Lotus Painting Feast	Number of Artist in Residence	Number of Continuing Education
2017	23	8	3,562	2	1	1	3
2018	22	7	3,437	2	1	2	4
2019	23	12	3,258	2	1	1	3

## 6-4 Industrial Cooperation

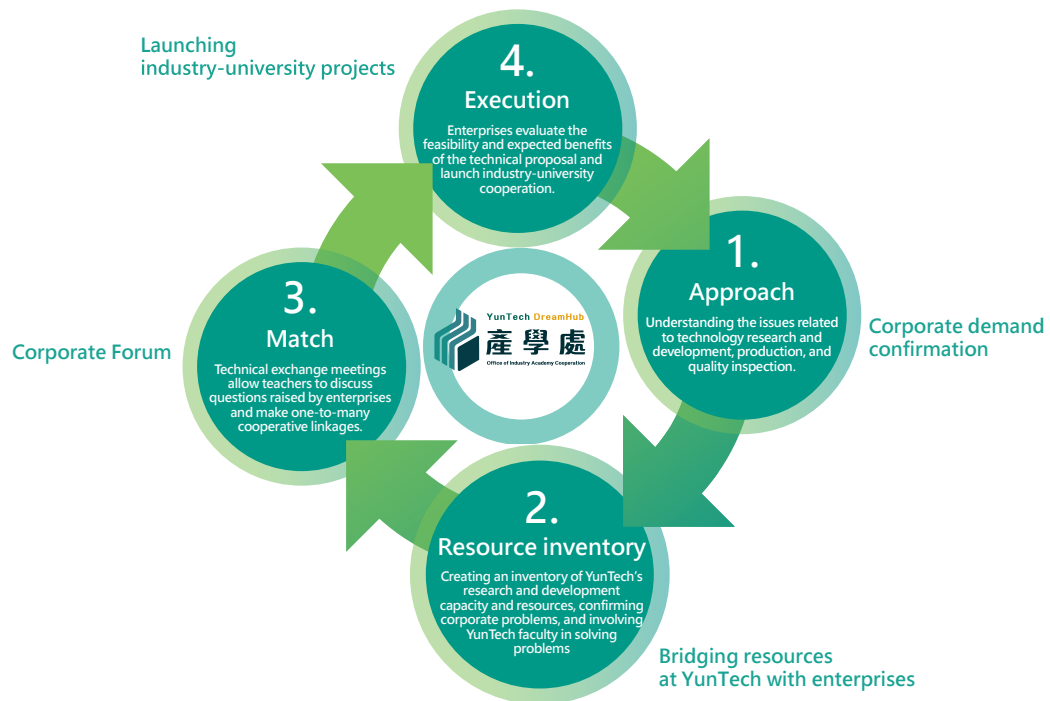


The Incubation Center for Academia-Industry Collaboration and Intellectual Property established Yunlin Placemaking Local Service Center and Central Incubation Alliance to promote SME counseling and organize related activities as follows:

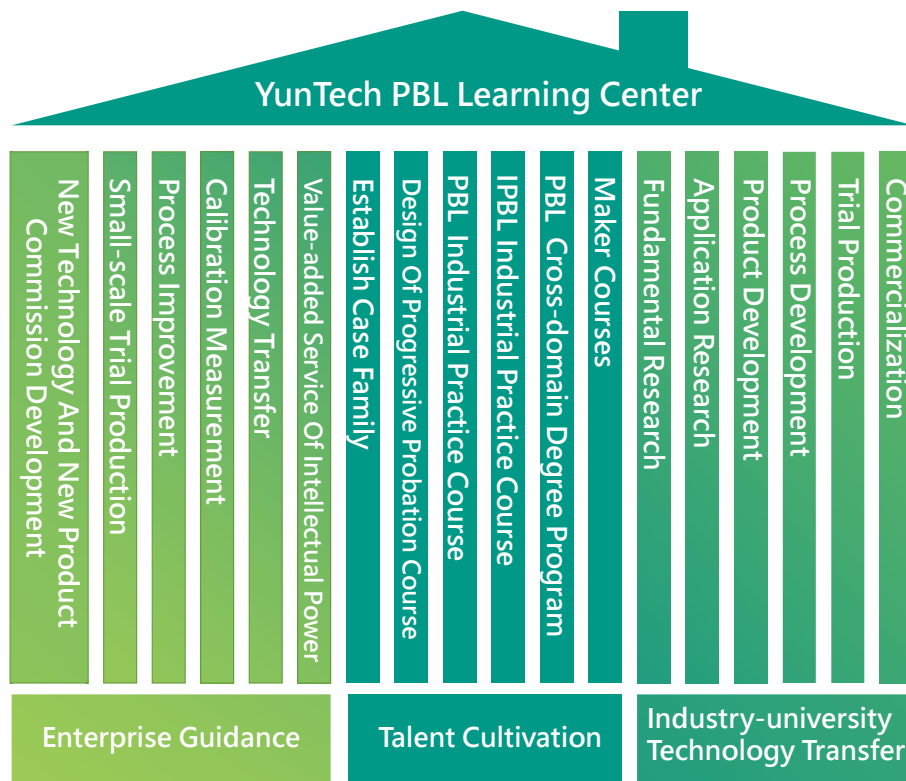


## Office of Industry-Academia Cooperation

To link with academia-industry collaboration platforms of enterprises, in addition to integrating core technology and professional manpower, YunTech still needs to do the following tasks: Deepen forward-looking and cross-domain technologies for the national industrial development, promote the guiding mechanism for B2B enterprises, upgrade academia-industry cooperation mode from the previous point-to-point mode to a one-stop systematic solution, and improve the academia-industry cooperation chain. Therefore, General Industry-Academia Research Center was established in February 2018 and upgraded into the Office of Industry-Academia Cooperation in August 2019 as a first-level unit of the university. In addition to academia-industry collaboration, this Office also undertakes the role of assisting regional and local industrial upgrading.



The Office of Industry-Academia Cooperation provides a full range of R&D cooperation and business consulting services, including new technology and new product commission development, small-scale trial production, process improvement, calibration measurement, value-added service of intellectual power, technology transfer, intellectual power value-added services, etc. Moreover, open laboratories are established along with Incubation Center for Academia-Industry Collaboration and Intellectual Property to promote and foster new start-ups for faster development of industrial technology and high-tech industries. Its operation is in line with the essence of for-practical-purposes for universities of science and technology. It further built up Problem Based Learning (PBL) Center research to investigate 27 professional and technical fields through industry university R&D energy grading, project family operation, new-typed human resource cultivation, innovation and entrepreneurship counseling and other mechanisms to improve the above problems.



The Office of Industry-Academia Cooperation is responsible for coordinating the research and development of YunTech as a platform for university-industry cooperation and collaboration. It uses technical elements and business transformation ability to attract enterprises for joint-development or to build trial-production centers at campus for cooperative cultivation of talents and R&D. With strategies of “strengthening the foundation of teaching and research”, “research and development of innovative technology” and “deepening industrial services”, this Office provides diversified services to meet the needs of different industries and help industrial transformation, such as industrial talent cultivation, technical guidance, problem solving and industrial upgrading. The Office of Industry-Academia Cooperation focuses on the future industrial development trend and technology demands.



The Office of Industry-Academia Cooperation continues its efforts in industrial-academia collaboration activities: it invited enterprises to the university for cooperation, arranged research teams to diagnose enterprises, and established the Billboard of Enterprises to provide solutions. The total number of collaboration activities in 2019 is over 60, aiming at matching enterprise demands with PBL professional technologies. Successful high-quality enterprises were invited each time to put forward demands in R&D or innovative operation, and then appropriate PBL research centers were invited to share professional technologies and existing achievements for possible cooperation. Also, we are committed to cope with listed companies and large enterprises. Yongxin Pharmaceutical, Junhao Precision, Camry Electric, China Telecom, Chewang Electronics, Asia Airlines, Kenda Tire, Nam Liong Group, Sandi Group, Nanrenhu group, Baisha Printing, Chen Yi Paper Container and Lioho Machine Works are all best enterprise partners of YunTech with close cooperation. We also

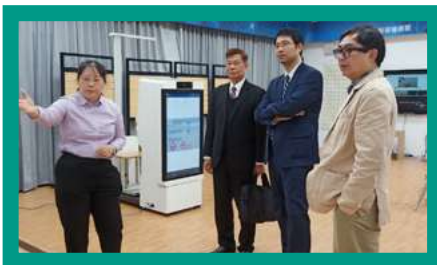


have worked closely with the School of Management to provide high-quality value-added service for the president class majoring in advanced management with a master's degree, enabling business owners from Yunlin and other central and southern regions can study at YunTech. Not only can they learn rich knowledge, but also they can solve practical issues of enterprises by academia-industry collaboration. YunTech is actually the provider of diversified services.

Focusing on people's livelihood, chemical industry, electronic information, cultural creative industry, and innovative technology, the Incubation Center for Academia-Industry Collaboration and Intellectual Property integrated and applied professional characteristics and expertise of five colleges at YunTech provide customized guidance and R&D support based on enterprise demands from different dimensions, which are, entrepreneurship guidance, research and development, marketing exposure, cross-domain cooperation", etc. Recently, we have been more proactively in cooperating with various units. More specifically, we coordinated large enterprises to help small enterprises or work with more than 30 partner units including public sectors, private education and venture capital resources to expand the scope and strength of guidance, create a sharing mechanism with effects of "1 + 1 > 2" (something that is greater than the whole), vigorously help young people return home to start businesses, and upgrade industrial transmission. What's more, the Center was awarded as the "excellent innovation institution in local placemaking" unit by Small and Medium Administration of Ministry of Economic Affairs in 2018 and 2019.

## Yunlin Placemaking Local Service Center

To implement the principle of “placemaking and cultivation of Yunlin”, the Yunlin Placemaking Local Service Center was set up. With the concept of “Incubation at YunTech”, the Center takes rural areas as planning places. Education specialists regularly visit each branch office to understand enterprises demands more deeply and discuss with county-level government and township public sectors on placemaking. Additionally, based on traditional culture, industrial characteristics, industrial development of the township, the Center can introduce the academic community to offer guidance.



## Central Incubation Alliance

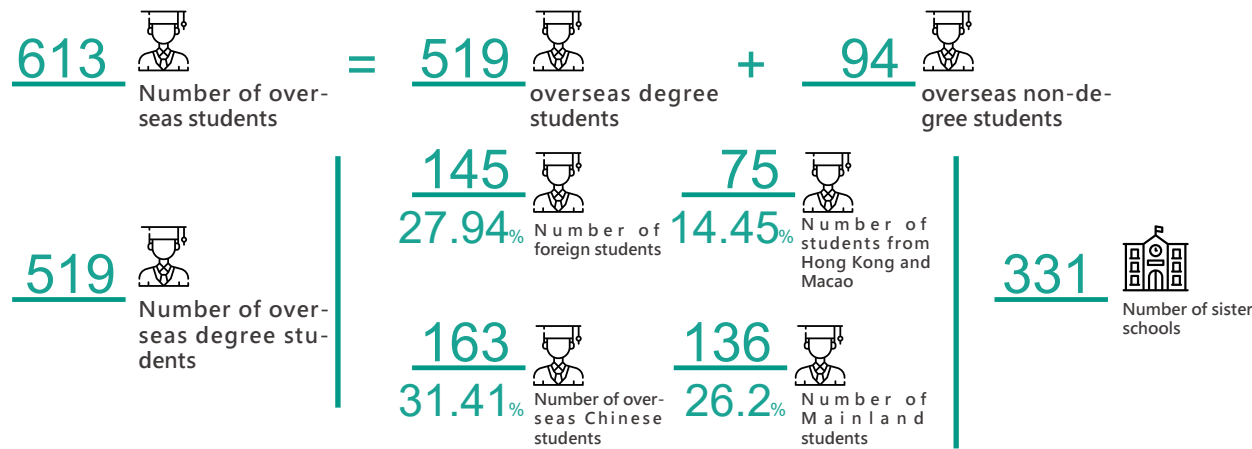
Taking YunTech Dream Hub as the innovative and entrepreneurship base, combined with public sectors, private incubation, resources of innovation and investment, YunTech takes advantage of five colleges to focus on key areas. Except for establishing the Yunlin Deep Economy Demonstration District, it also serves as the guiding unit of Central Incubation Alliance to integrate regional innovation and incubation resources in central universities. With enhanced assistance both in breadth and depth, YunTech promotes the placemaking of local industries and investment collaboration to offer more complete and diversified services.

## Industrial Communication Activities

With a history of 21 years already, YunTech Incubation Center has undertaken the “Competitiveness Promotion Program for Industrial Park” entrusted by Industrial Development Bureau of the Ministry of Economic Affairs since 2014. The Center has closely interacted with local enterprises and publicized its business and university strength through paying visits to factories, hosting technical lectures, and participating in exchange activities of industrial parks and local enterprise associations. In addition, it organized communication activities at levels of industry, government and university and achievement exhibitions, so as to create opportunities for local small and medium-sized enterprises at industrial parks to better understand the incubation and promote the cross-domain cooperation.



## 6-5 International Communication



In response to the internationalization of higher education and vigorous development of international academic exchanges, the Office of International Affairs plans and implements the internationalization of campus. As a result, we can promote academic research and learning effect of teachers and students with higher academic status and better reputation, and expand students' horizons and career planning to lay a solid foundation of Taiwan's soft power.

YunTech encourages teachers and students to go abroad, and also welcomes international students and scholars for international exchanges. International exchange students can have access to most advanced knowledge in developed countries and understand different cultures with more tolerance. Not only can those students learn new knowledge, but also they can absorb foreign cultures and establish international communication channels. To expand academic exchanges with international communities, YunTech is devoted to developing into a top Chinese university of science and technology, and actively publicize its achievements through various international activities, so as to build the international reputation.

To promote international exchanges, much effort has been made by YunTech. On the one hand, teachers and students should actively participate in international exchange activities to enhance students' international mobility with international vision and outlook. By doing so, students can understand different cultures more deeply with more tolerance. Not only can those students learn new knowledge, but also they can absorb foreign cultures and establish international communication channels. On the other hand, international students and scholars are well received by YunTech as it increases the number and amount of scholarships for international students to attract more foreign students and stimulate more cross-cultural exchanges and research achievements.

The number and percentage of overseas students during 106-108 academic year

Academic Year	Number of Overseas Students	Number of Enrollment	Percentage of Overseas Students
106	457	9,715	4.70%
107	521	9,732	5.35%
108	519	9,916	5.23%

## Sign agreements on international academic communications

By 2019, YunTech has connected with 331 sister universities in 34 countries around the world. An increase of 20 sister schools was posted in 2019. In addition, our school participated in the TAitech and forms an international alliance with the Germany HAWtech, providing more opportunities for teachers and students to visit Germany for exchanges in the future. In 2018, we signed joint-degree programs with Andrews University; and in 2019 we signed the same thing with California State Polytechnic University (Pomona) respectively. Furthermore, we continued to co-operate design workshops with Curtin University in Australia, whose vice-president and others visited YunTech in 2019 to discuss bilateral cooperation on double degree system and laboratories.

## Teacher's participation in international communication and foreign visitors

Departments and institutes are inspired to hold international lectures with prominent foreign schools to attract foreign experts, scholars and high-tech talents to YunTech to pay short-term visits, give seminars and special lectures. Hence, the research culture of campus can be enhanced at a micro level, and cross-country academic cooperation between departments and foreign industries or related research institutions can be promoted. In addition, based on operating special research plans, teachers are encouraged to apply for subsidies from the Ministry of Science and Technology or other institutions to carry out international industry-academia cooperation and exchanges and professional talent training programs.

In 2017, Research Center for Soil & Water Resources and Natural Disaster Prevention won the Horizon 2020 cooperative research plan, which significantly advanced the academic cooperation between YunTech and European Union. Through international communications of teachers, YunTch can improve the international reputation and stimulate the innovation of teachers' instruction and research. YunTech aims to attract more foreign talents and grasp more opportunities to discuss future cooperation programs with foreign visitors, while it still continues to encourage teachers abroad to help advertise our school for better enrollment.



## Student's participation in international communication

With international perspectives, our university students can often attend international academic seminars and exchange activities or study abroad at their own expenses or with subsidies from the university. For example, students at the College of Management can go to Seattle University for summer exchange every year, or seek the internship at enterprises located in Beijing, Shanghai and Shenzhen of mainland China or in Taiwan, or at Taiwanese enterprises in Indonesia and Japan Morbido. The number of students going abroad for study and exchange has increased year by year. From 106 to 108 academic year, a total of 237 people attended international conferences, 217 times of short-term group study were achieved, and 247 people went abroad for exchange.

In 2019, 82 students participated in internships at overseas enterprises, studying abroad, and international volunteer work, 92 students joined in international academic seminars and published papers, and 53 students went to the Mainland for short-term study camps in winter and summer. In summary, 227 students have participated in various overseas researches and learning processes. YunTech will continue to cope with foreign universities for studying-abroad program and students' exchange agreement while still encouraging students from both sides to continuously communicate and take courses.



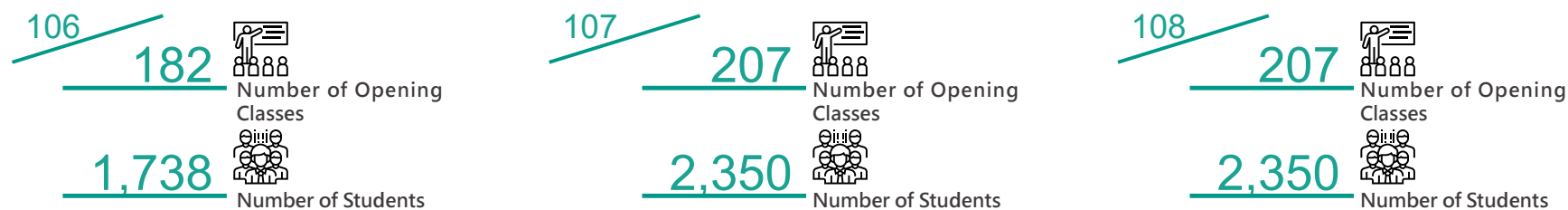
## 6-6 Continuing Education



On the one hand, the Center of Continuing Education cultivates senior technical talents in line with requirements of national economy and local construction. On the other hand, it proactively integrates relevant soft and hard equipment and resources to satisfy regional needs, and organizes continuing education and training classes to serve and reward local communities.

In recent years, the Center has acted actively as an excellent teacher and equipment marketer to master Yun-Tech's advantages in mechanical and electrical engineering, designing, and management. By carrying out key technology reengineering activities with local industries, it endeavors to fill the industrial manpower gap and enhance the operating capacity of neighboring enterprises to achieve a win-win academia-industry situation. The Center proactively undertakes various training courses or cooperates with enterprises to establish industrial colleges.

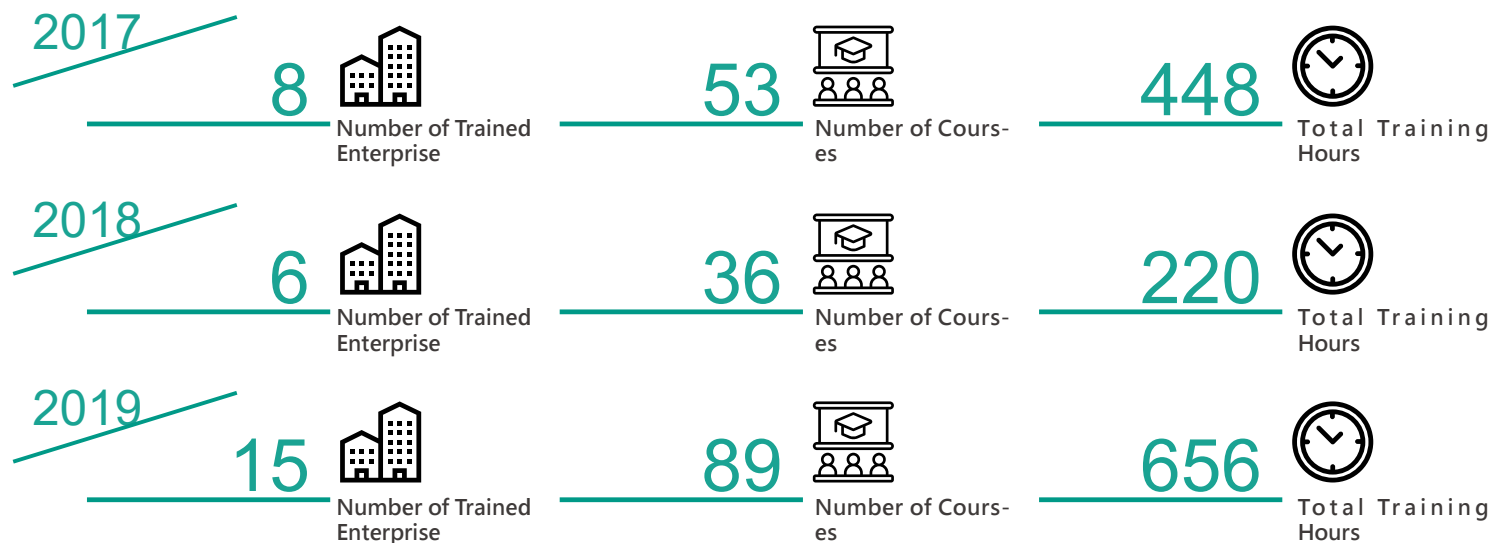
### Number of opening classes and students at Center of Continuing Education during 106-108 academic year



## Undertake training and industrial colleges

We continued to participate in small enterprise manpower improvement plan by Yunjia Branch of the Workforce Development Agency to carry out counseling plans for enterprises with less than 50 employees in Yunlin. In cooperation with China Productivity Center as well as Yunjia Branch of Workforce Development Agency, we have already handled training programs of four vendors in 2020, and will continue to be accept more in the future.

### Number of trained enterprises and courses and total training hours during 2017-2019



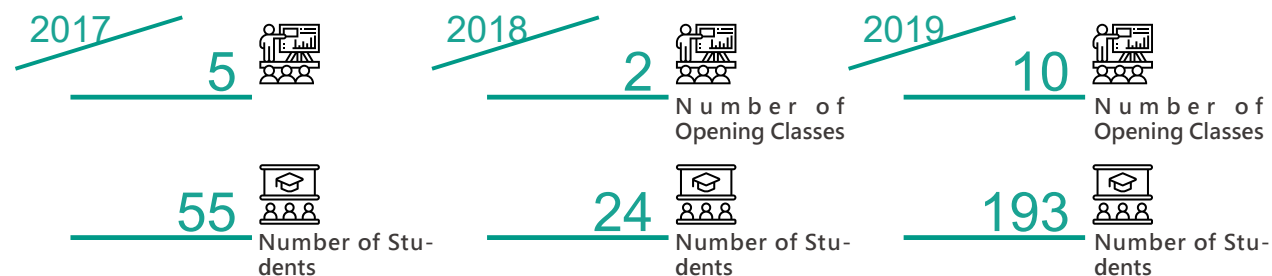
## Undertake Vocational Training Program of Yunjianan Branch of Workforce Development Agency

In 2017, it undertook the Industrial Talent Investment Program of Yunjianan Branch of Workforce Development Agency to open five courses, which are, "Human Machine Interface (HMI) Basic Application Technical Training Course", "New Agricultural Technology (Greenhouse)", "New Agricultural Creative Management Class", "Business Vietnamese Teaching Course" and "Sino- Vietnamese Translation and Communication Technique Course", with a total funding of NT\$492,500.

In 2018, it undertook to carry out "2018 Annual Industrial Talent Investment Program - Policy Courses" of Yunjianan Branch of Workforce Development Agency, and cooperated with the New Southward Policy to launch two courses of "Preliminary Vietnamese Conversation" and "Intermediate Vietnamese Conversation", with a total funding of NT\$121,680.

In 2019 and 2020, we continued our efforts in undertaking the "Industrial Talent Investment Program" of the Yunjianan Branch of Workforce Development Agency and provided relevant courses guided by the policies. We also ap-

### Number of vocational training classes and students entrusted by Yunjianan Branch of Workforce Development Agency during 2017 to 2019

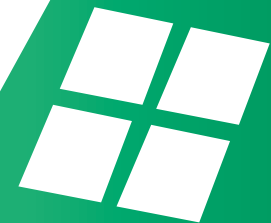








07 Supply Chain Management Performance  
Major Issues  
Supplier Management





## Major Issues Management Goals and Its Elements

### Major Themes of Sustainable Development of YunTech

#### Supplier Management

#### The Reasons of YunTech Choosing Major Themes

As a public institution, the procurement process should follow the government procurement law to institutionalize all the procurement procedures. Sustainable campus and green campus are one of the goals of YunTech, so green supply chain is the topic of YunTech.

#### GRI Guidelines Specific Topics

204 Procurement Practice,  
414 Supplier Social Assessment

#### Policy

According to the Strategy 1: Building an Education Environment of Nutrition by Nature of YunTech's Medium Range Development Plan from 2019 to 2023

#### Commitment

- Through the on-site visits with stakeholders and suppliers, YunTech can make the suggestions to improve the direction and set improvement targets.
- To ensure the effectiveness and appropriateness of the operation activities, the relevant standards of supplier selection and evaluation and assessment are formulated in accordance with the government procurement law and the school's operating procedures.

#### Target and Subject Matter

- Short Term: to maintain green procurement and priority procurement ratio
- Medium Term: to keep good relationship with suppliers
- Long Term: to construct high quality environment and attract and retain talents

#### Responsibility and System

- External System: Government Procurement Law
- Internal System: Key Points of Purchasing Operation

#### Impact and Risk Assessment

In addition to signing the relevant sustainable terms and making the formal contract terms, the suppliers who confirm cooperation also carry out irregular on-the-spot inspection and management guidance for the catering with high risk, so as to urge the suppliers to follow the corporate ethics and fulfill the corporate social responsibility.

#### Invested Resources

The green procurement expense is about NT \$46.56 million.  
The priority procurement expense is about NT \$3.12 million.

#### Appeal Mechanism

- General Affairs Section (05)5342601 #2402

#### Specific Strategy / Specific Action

- Priority Procurement
- Green Procurement

#### Output Performance / Evaluation Mechanism

The achievement of annual goals is a comprehensive comparison of the performance of previous years.

#### Goals Achieved

- Priority procurement ratio: 9.82% > the ratio of 5% regulated by the government
- Green procurement ratio: 99.44% > the ratio of 90% regulated by the government
- Ratio of new suppliers selected by using social standards: 100%

## 7-1 Sustainable Supply Chain Policy and Objectives

YunTech is a public organization, and its procurement process follows the Government Procurement Law. In order to institutionalize various procurement procedures, improve the efficiency and function of professional procurement, ensure the procurement quality, and enable all units to follow the engineering, financial and labor procurement operations, the YunTech Procurement Operation Points is formulated in accordance with the government procurement law and its related sub-laws. The contract stipulates that the supplier may employ the disabled and indigenous workers in accordance with the law on the protection of the rights and interests of the disabled and the law on the protection of the right to work of the indigenous workers, and shall not employ the workers without the right to work. The provisions on the prohibition of sex discrimination, the prevention and control of sexual harassment and the measures for gender equality in work in the law on gender equality in work are implemented. In addition, according to the Labor Standards Law and its implementation rules and regulations, there are 230 local suppliers in 2019, all of which have signed contracts. Therefore, 100% of new suppliers are selected by using social standards.

### Engineering



The act of building, adding, reconstructing, constructing and demolishing structures and their equipment above and below the ground, and changing the natural environment.

### Finance



All kinds of articles, materials, equipment, machines and tools, and other movable property, real property, rights, etc.

### Labour Services



Professional services, technical services, information services, research and development, operation management, maintenance, training, labor, etc.

The relationship between YunTech and suppliers is based on the Chain. How to build a friendly industrial environment with partners in the supply chain is also the most concerned issue of the Green Supply Chain. The key factors affecting the Green Supply Chain are summarized as follows:

- The Enthusiasm of the University Itself for the Green Activities
- University's Dependence on Suppliers
- University's Supplier Relationship Management, SRM
- The Exchange Cost of Universities

## Supplier Evaluation Process of YunTech

### Current Situation Understanding and Evaluation



- Evaluate on laws and regulations and industrial chain demand for sustainable supply chain.
- Refer to the practice of sustainable supply chain of paradigm enterprise
- Carry out the evaluation of its own sustainable supply chain management.
- Establish sustainable supply chain management operation system.



### Strengthen Sustainable Supplier Management



- Establish the supplier bidding qualification.
- Optimize the supplier selection (review) and bidding method.
- Establish the sustainable practice clauses in the legal (contractual) document or agreement.
- Audit and manage the related operations. Confirm sustainable as implementation performance.





### Enhance Sustainable Cooperation and Information Transparency of Supply Chain



- Select the establishment of sustainable practical cooperation mode needed by the industry.
- Use government and school information systems to enhance the related information transparency of industry chain.
- Fully disclose the relevant management and evaluation information of the school and improve the quality of sustainable information disclosure.

## 7-2 Implementation Method and Effect

Priority Procurement Amount NT \$ 3.116134 million   
Ratio **9.82%**

Green Procurement Amount NT \$ 46.56150 million   
Ratio **99.44%**

In order to ensure the quality of procurement and improve the efficiency and function of procurement, procurement shall be conducted in accordance with fair and open procurement procedures. According to the statistics of our university, the number of suppliers for the procurement cases with the procurement amount more than NT \$ 100 thousand that need to be invited for bidding is 231 in 2019. One of them is purchased from abroad, so the proportion of local suppliers is 99.57%. The local suppliers' procurement expenditure is NT \$ 293665288, accounting for 99.99% of the procurement expenditure. Most of our local suppliers are located in Taipei, New Taipei, Keelung area, followed by the Yunlin, Chiayi, Tainan area.

**2017**

Procurement Amount NT \$ 269,071,080 

Procurement Amount Ratio of Local Suppliers **100.00%**

**2018**

Procurement Amount NT \$ 268,033,049 

Procurement Amount Ratio of Local Suppliers **100.00%**

\* Local Supplier refers to the supplier is located in Taiwan.

**2019**

Procurement Amount NT \$ 293,665,288 

Procurement Amount Ratio of Local Suppliers **99.99%**

## Inspection of Catering with High Risk

To ensure the health, safety and quality of campus catering, establish a catering health management mechanism, the health of teaching staff is jointly checked by the employers, school, and Ministry of Education.

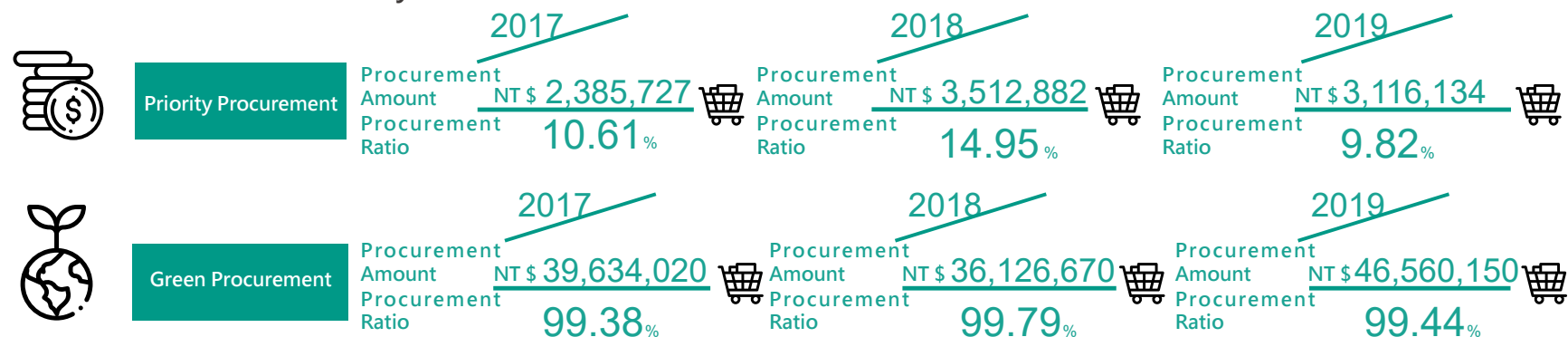
### Catering Hygiene Management Mechanism of YunTech

- Every school year, the School Catering Hygiene Inspection Team is set up, which consists of members of the Dietary Steering Committee, catering supervisors, and nutritionists. Every week, the team goes to all restaurants for catering hygiene supervision (including tableware cleanliness test and frying oil aging test).
- According to the items in the self-management table, the self-examination shall be carried out every day and be confirmed by the school food beverage hygiene inspectors every week. The Ministry of Education conducts the on-the-spot counseling once a school year. In the academic year 108, three restaurants were located in the school. One of them has passed the assessment, and the other two have passed the assessment after improving the deficiencies.
- In the academic year 108, the food hygiene department and inspection department of Yunlin County Health Bureau have been entrusted to carry out microbial (escherichia coli group, escherichia coli) limit detection for lunch boxes twice a school year. In the academic year 108, 11 kinds of lunch boxes were randomly selected for escherichia coli group / escherichia coli test. The results were consistent with the regulations.
- The test results are published on the Website of Health Education Section of Academic Affairs Office for reference before meals.

## Priority Procurement and Green Procurement

In order to promote the green life of the whole people, the government takes the lead in implementing green procurement, and encourages enterprises, groups, and communities to cooperate with green procurement. The procurement contents shall be specified according to the priority procurement ratio, including food bento, handicrafts, cleaning products, horticultural products, auxiliary appliances, household goods, and other items announced by the central competent authority.

The university's green attitude affects the supplier's supply behavior. According to the ethical procurement policy and the letter from the higher authorities, the university notifies the priority procurement and green procurement ratio of food and supplies every year. According to the green procurement ratio, the procurement content is specified, including provincial aquatic products, resource recovery products, and information products. In order to implement the green procurement and fulfill social responsibility, YunTech practices the fair and reasonable system, and formulates the ethical procurement policy for food and supplies. According to the regulations of the Ministry of Health and Welfare, 5% of the products and services should be purchased in welfare institutions or sheltered workshops with physical and mental disabilities every year. For green procurement, the annual procurement rate should be more than 90% according to the Environmental Protection Department of Executive Yuan. In the recent three years, YunTech has maintained a green procurement ratio of more than 99%, and the priority procurement ratio has exceeded 5% in the recent three years.

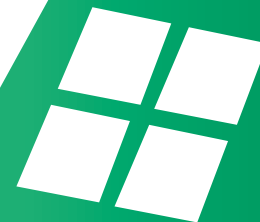








## 08 Comparison with the Contents of GRI Standards Project





## Common standards

GRI Standards		Number	Items for Disclosure	Corresponding Chapters	Pages	Remarks	
Common standards	GRI 102 :2016	General disclosure	102-1	Name of Organization	Organizational Framework	15-17	
			102-2	Activities, Brands, Products and Services	Organizational Framework	15-17	
			102-3	Headquarters' Location	Organizational Framework	15-17	
			102-4	Location of Operation Activities	Organizational Framework	15-17	
			102-5	Ownership and Legal Form	Organizational Framework	15-17	
			102-6	Market for Service Provision	Organizational Framework	15-17	
			102-7	Scale of Organization	Organizational Framework	15-17	
			102-8	Information on Employees and Other Workers	Faculty Career Development and Training	58-68	
			102-9	Supply Chain	Sustainable Supply Chain Policy and Objectives	212-213	
			102-10	Significant Changes on the Organization and Its Supply Chain	Organizational Framework	15-17	Significant Changes on the Organization and Its Supply Chain
			102-11	Early Warning Principle or Policy	Risk Analysis and Internal Control System	37-41	
			102-12	External Initiatives	Governance Procedures	32-36	
			102-13	Membership on Public Associations	Governance Procedures	32-36	
			102-14	Statement of Decision Maker	Message form the President	4-6	
			102-15	Key Impacts, Risks, and Opportunities	Risk Analysis and Internal Control System	37-41	
			102-16	Values, Principles, Standards, and Codes of Conduct	Academic and governance rthics	50-52	
			102-18	Governance Structure	Governance Procedures	32-36	
			102-20	Management Stand on Economic, Environmental and Social Themes	Sustainability and Social Responsibility Committee	74-76	
			102-22	Composition of the Highest Governance Unit and Its Committee	Governance Procedures	32-36	
			102-23	Chairman of the Highest Governance Unit	Organizational Framework, Governance Procedures	15-17,32-36	
			102-26	Role of the Highest Governance Unit in the Establishment of Purpose, Values, and Strategy	Governance Procedures	32-36	
			102-32	Role of the Highest Governance Unit in Sustainability Reporting	Sustainability and Social Responsibility Committee	74-76	
			102-40	Stakeholder Group	Communication of Stakeholders	42-49	
102-41	Group Agreement	————	————	No Union Organization in Our School			
102-42	Identification and Selection of Stakeholders	Communication of Stakeholders	42-49				
102-43	Guidelines for Communication with Stakeholders	Communication of Stakeholders	42-49				

GRI Standards		Number	Items for Disclosure	Corresponding Chapters	Pages	Remarks
		102-44	Putting Forward Key Themes and Corners	Communication with Stakeholders	42-49	
		102-45	Entities Included in the Consolidated Financial Statements	—————	—————	No Consolidated Statement in Our School
		102-46	Defining the Content and Subject Boundary of the Report	Communication with Stakeholders	42-49	
		102-47	List of Major Topics	Communication with Stakeholders	42-49	
		102-48	Information Reprogramming	—————	—————	Information without re-editing
		102-49	Report changes	Communication with Stakeholders	42-49	
		102-50	Reporting Period	About the Report	2-3	
		102-51	Date of Last Report	About the Report	2-3	
		102-52	Reporting Cycle	About the Report	2-3	
		102-53	Contact Person for Answering Questions Related to the Report	About the Report	2-3	
		102-54	Declaration of Reporting in Accordance with GRI Standards	About the Report	2-3	
		102-55	GRI Content Index	Comparison with the Contents of GRI Standards Project	219-221	
		102-56	External Assurance	About the Report and Appendix	2-3 , 222	
		GRI 103 :2016	Managerial direction	103-1	Explaining the Major Themes and Their Boundaries	Every Chapter
103-2	Management Policy and Its Elements			Every Chapter	50,53,58,79,88-89,130-131,162-163,211	
103-3	Evaluation of Management Policy			Every Chapter	50,53,58,79,88-89,130-131,162-163,211	

## Economic Standards

GRI Standards		Number	Items for Disclosure	Corresponding Chapters	Pages	Remarks
Economic Standards	GRI 201 :2016	Economic Performance	201-1	Direct economic value generated and distributed by organizations	Financial performance	80-83
			201-4	Financial subsidies from the government	Financial performance	80-83
	GRI 202 :2016	Market Position	202-1	Ratio of standard salary to local minimum salary of grass-roots workers of different genders	Benefits and Appeal of Faculty and Staff	71-73
	GRI 203 :2016	Indirect Economic Impacts	203-1	Development and impact of infrastructure investment and support services	External Social practice outside the University	176-194
	GRI 204 :2016	Procurement Practices	204-1	Proportion of spending on local suppliers	Implementation Method and Effect	214-216
	GRI 205 :2016	Anti-Corruption	205-3	Identified corruption incidents and actions taken	Academic and governance ethics	51-52

## Environmental Standards

GRI Standards		Number	Items for Disclosure	Corresponding Chapters	Pages	Remarks	
Environmental Standards	GRI 302 :2016	Energy	302-1	Energy consumption with the organizations	Energy Resource Management and Energy Saving Measures	144-153	
	GRI 303 :2016	Water	303-3	Recycled and reused water	Energy Resource Management and Energy Saving Measures	144-153	
	GRI 306 :2016	Sewage and Waste	306-1	Sewage discharge volume divided in accordance with water quality and discharge destination	Energy Resource Management and Energy Saving Measures	144-153	
			306-2	Waste divided in accordance with category and disposal method	Energy Resource Management and Energy Saving Measures	144-153	
	GRI 307 :2016	Regulations Compliance on Environmental Protection	307-1	Compliance with Regulations	Campus Safety and Health	154	No violation of environmental regulations

## Social Standards

GRI Standards		Number	Items for Disclosure	Corresponding Chapters	Pages	Remarks	
Social Standards	GRI 401 :2016	Labor employment relationship	401-1	New and resigned employees	Faculty Career Development and Training	59-70	
	GRI 403 :2016	Occupational safety and health	403-1	Workers representatives in a formal safety and health committee composed of employers and employees	Campus Safety and Health	154	
	GRI 405 :2016	Diversity and equal opportunities of	405-1	Diversity of management units and employees	Governance Procedures, Faculty Career Development and Training	32-36, 59-69	
	GRI 406 :2016	No-discrimination	406-1	Discrimination incidents and improvement actions taken by the organizations	Benegits and Appeal of Faculty and Staff	71-73	
	GRI 414 :2016	Supplier social assessment	414-1	Use of social standards to screen new suppliers	Sustainable Supply Chain Policy and Objectives	212-213	
	GRI 418 :2016	Customer privacy	418-1	Complaints of confirmed infringement of customer privacy or loss of customer information	Information Security	54-57	

## Disclosure of other themes

Custom topics	Number	Items for Disclosure	Corresponding Chapters	Pages	Remarks
Study environment and opportunities	-	-	Students Employment Outcomes	94-97	
Research and industry-academia cooperation performance	-	-	Academic Research Results , Industry-Academia Cooperation Results	110-116	
Teaching quality and effect	-	-	Education Performance	88-127	



## INDEPENDENT ASSURANCE OPINION STATEMENT

### YunTech 2019 Sustainability Report

The British Standards Institution is independent to National Yunlin University of Science and Technology (hereafter referred to as YunTech in this statement) and has no financial interest in the operation of YunTech other than for the assessment and verification of the sustainability statements contained in this report.

This independent assurance opinion statement has been prepared for the stakeholders of YunTech only for the purposes of assuring its statements relating to its social responsibility, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by YunTech. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to YunTech only.

#### Scope

The scope of engagement agreed upon with YunTech includes the following:

1. The assurance scope is consistent with the description of YunTech 2019 Sustainability Report.
2. The evaluation of the nature and extent of the YunTech's adherence to AA1000 AccountAbility Principles (2018) in this report as conducted in accordance with type 1 of AA1000 Assurance Standard (2008) with 2018 Addendum assurance engagement and therefore, the information/data disclosed in the report is not verified through the verification process.

This statement was prepared in English and translated into Chinese for reference only.

#### Opinion Statement

We conclude that the YunTech 2019 Sustainability Report provides a fair view of the YunTech CSR programmes and performances during 2019. The CSR report subject to assurance is free from material misstatement based upon testing within the limitations of the scope of the assurance, the information and data provided by the YunTech and the sample taken. We believe that the 2019 economic, social and environmental performance information are fairly represented. The CSR performance information disclosed in the report demonstrate YunTech's efforts recognized by its stakeholders.

Our work was carried out by a team of CSR report assurers in accordance with the AA1000AS (2008) with 2018 Addendum. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that YunTech's description of their approach to AA1000AS (2008) with 2018 Addendum and their self-declaration in accordance with GRI Standards. Core option were fairly stated.

#### Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- a review of issues raised by external parties that could be relevant to YunTech's policies to provide a check on the appropriateness of statements made in the report.
- discussion with managers on approach to stakeholder engagement. However, we had no direct contact with external stakeholders.
- 57 interviews with staffs involved in sustainability management, report preparation and provision of report information were carried out.
- review of key organizational developments.
- review of the findings of internal audits.
- review of supporting evidence for claims made in the reports.
- an assessment of the organization's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality, Responsiveness and Impact as described in the AA1000AP (2018).

#### Conclusions

A detailed review against the Inclusivity, Materiality, Responsiveness and Impact of AA1000AP (2018) and GRI Standards is set out below:

#### Inclusivity

This report has reflected a fact that YunTech has continually sought the engagement of its stakeholders and established material sustainability topics, as the participation of stakeholders has been conducted in developing and achieving an accountable and strategic response to sustainability. There are fair reporting and disclosures for economic, social and environmental information in this report, so that appropriate planning and target-setting can be supported. In our professional opinion the report covers the YunTech's inclusivity issues.

#### Materiality

YunTech publishes material topics that will substantively influence and impact the assessments, decisions, actions and performance of YunTech and its stakeholders. The sustainability information disclosed enables its stakeholders to make informed judgements about the YunTech's management and performance. In our professional opinion the report covers the YunTech's material issues.

#### Responsiveness

YunTech has implemented the practice to respond to the expectations and perceptions of its stakeholders. An Ethical Policy for YunTech is developed and continually provides the opportunity to further enhance YunTech's responsiveness to stakeholder concerns. Topics that stakeholder concern about have been responded timely. In our professional opinion the report covers the YunTech's responsiveness issues.

#### Impact

YunTech has identified and fairly represented impacts that were measured and disclosed in probably balanced and effective way. YunTech has established processes to monitor, measure, evaluate and manage impacts that lead to more effective decision-making and results-based management within the organization. In our professional opinion the report covers the YunTech's impact issues.

#### GRI Sustainability Reporting Standards (GRI Standards)

YunTech provided us with their self-declaration of in accordance with GRI Standards: Core option (For each material topic covered by a topic-specific GRI Standard, comply with all reporting requirements for at least one topic-specific disclosure). Based on our review, we confirm that social responsibility and sustainable development disclosures with reference to GRI Standards' disclosures are reported, partially reported or omitted. In our professional opinion the self-declaration covers the YunTech's social responsibility and sustainability topics.

#### Assurance level

The moderate level assurance provided is in accordance with AA1000AS (2008) with 2018 Addendum in our review, as defined by the scope and methodology described in this statement.

#### Responsibility

The CSR report is the responsibility of the YunTech's chairman as declared in his responsibility letter. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

#### Competency and Independence

The assurance team was composed of Lead auditors experienced in relevant sectors, and trained in a range of sustainability, environmental and social standards including AA1000AS, ISO 14001, ISO 45001, ISO 14064 and ISO 9001. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI:

  
Peter Pu, Managing Director BSI Taiwan



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